



ORIGINAL ARTICLE

Gender incongruence: a comparative study using ICD-10 and DSM-5 diagnostic criteria

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Objective: To compare the presence of criteria listed in the DSM-5 and ICD-10 diagnostic manuals in a Brazilian sample of transgender persons seeking health services specifically for physical transition.

Methods: This multicenter cross-sectional study included a sample of 103 subjects who sought services for gender identity disorder in two main reference centers in Brazil. The method involved a structured interview encompassing the diagnostic criteria in the two manuals.

Results: The results revealed that despite theoretical disagreement about the criteria, the manuals overlap regarding diagnosis confirmation; the DSM-5 was more inclusive (97.1%) than the ICD-10 (93.2%) in this population.

Conclusions: Although there is no consensus on diagnostic criteria on transgenderism in the diversity of social and cultural contexts, more comprehensive diagnostic criteria are evolving due to society's increasing inclusivity.

Keywords: Diagnosis and classification; gender differences; minority issues and cross-cultural psychiatry; history of psychiatry; social and political issues

Introduction

Although in the 1910s and 1920s Magnus Hirschfeld foreshadowed the distinction between a desire for others of the same sex and a desire to live as someone of a different sex than that assigned at birth, gender and sexual variations have been considered similar phenomena in the mainstream view, appearing in both the ICD-8 (1965) and the ICD-9 (1975) as sexual deviations. In 1968, the American Psychiatric Association (APA), following the same logic, published the second edition of its manual, the DSM-II, which included transvestism as a sexual deviation.¹⁻³ Harry Benjamin (1966)⁴ is credited with popularizing the term transsexual and is responsible for raising awareness on the specific health care needs of this group of individuals. Benjamin was the first to differentiate transvestism and transsexualism by specifying that the former did not involve a desire for body modification or identity affirmation. Due to Benjamin's efforts, the idea that transgender people should not be subjected to conversion therapies became scientifically

accepted, resulting in consolidation of the current treatment guidelines.⁵

In 1975, with the publication of the ICD-9, the diagnosis of transsexualism was first described.³ No less immersed in this *zeitgeist*, the APA published, in 1980, the DSM-III, the first manual to describe gender identity disorder as a psychosexual condition, a definition consolidated in the DSM-III-R (1987), DSM-IV (1994) and DSM-IV-TR (2000).⁶⁻¹⁰ In 1990, the ICD-10 redefined this phenomenon by shifting it into a new separate category: gender identity disorder.^{11,12} This change was the result of studies in previous decades that viewed transsexualism as a gender identification condition unrelated to pathological personality, sexual orientation or paraphilia.^{4,13,14} In the 1990s, many transgender persons began to publicly "come out."¹⁵ In North America, the transgender category that emerged covered all gender variations, including people unwilling to submit to body modification procedures.¹⁶ The resulting movement held that variations in gender expression are natural human differences and sought to revise diagnostic criteria focusing on the stigma attached to gender variations and the health disparities they cause.¹⁷ This new view is reflected in the DSM-5, which depathologizes gender identity and considers other gender expressions besides the male/female dichotomy, focusing instead on dysphoria.¹⁸ Table 1 summarizes the historical categorization of gender identity diagnoses in the ICD and DSM.

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ICD-10 and DSM-5

The manuals differ in their understanding of the concept of gender and, consequently, of the transgender phenomenon. A comparison of the ICD-10¹² and DSM-5¹⁹ diagnostic guidelines is presented in Table 2.

The ICD-11-WHO proposal

The ICD-11-WHO proposal (expected to be published in 2018), which aims to remove transsexuality from the list of mental and behavioral disorders (as it is in the current ICD-10), is guided by the understanding that the stigma

surrounding this condition should be decreased in order to expand access to health care for this population.¹ The categories related to gender incongruence would remain as Gender Incongruence in Childhood and Gender Incongruence in Adolescence and Adulthood and relocated to a new chapter on sexual disorder and sexual mental health care. As in other areas of medical science, the classification of health phenomena has three purposes. Specifically, it enables better communication between providers and patients regarding symptoms, prognoses and treatments; it ensures that research can be conducted in homogeneous groups of patients; and it allows for epidemiological studies as a basis for research and services planning.¹¹

Table 1 Gender identity diagnoses in the ICD and DSM for year

Year of edition	Category	Diagnosis name
ICD-6 (1948)	N/A	N/A
DSM-I (1952)	N/A	N/A
ICD-7 (1955)	N/A	N/A
ICD-8 (1965)	Sexual deviations	Transvestitism
DSM-II (1968)	Sexual deviations	Transvestitism
ICD-9 (1975)	Sexual deviations	Transvestism and transsexualism
DSM-III (1980)	Psychosexual disorders	Transsexualism
DSM-III-R (1987)	Disorders usually first evident in infancy, childhood or adolescence	Transsexualism
ICD-10 (1990)	Gender identity disorders	Transsexualism
DSM-IV (1994)	Sexual and gender identity disorders	Gender identity disorder in adolescents or adults
DSM-IV-TR (2000)	Sexual and gender identity disorders	Gender identity disorder in adolescents or adults
DSM-5 (2015)	Gender dysphoria	Gender dysphoria in adolescents or adults

N/A = not available.

Table 2 Comparison between ICD-10 and DSM-5

Manual	ICD-10	DSM-5
Concept of gender	Gender binary	Gender fluidity
Parent category	Gender identity disorders	Gender dysphoria
Diagnosis name	Transsexualism	Gender dysphoria in adolescents and adults
Associated clinical presentations: significant distress or impairment in important areas of functioning	Evidence of significant distress or impairment in social or other important areas of functioning (Criterion D)	The condition is associated with clinically significant distress or impairment in social, school, or other important areas of functioning (Criterion B)
Overlapping diagnoses with disorders of sex development (DSD)	No	If an individual with a DSD also satisfies the diagnostic requirements for gender incongruence, both diagnoses should be assigned
Time required to establish the diagnosis	Of at least two years duration	Of at least 6 months duration and is shown by at least two of the Criterion A:
Criterion A	Desire to live and be accepted as a member of the opposite sex, usually accompanied by the wish to make one's body as congruent as possible with one's preferred sex through surgery and hormonal treatment	<ol style="list-style-type: none"> 1. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics 2. A strong desire to be rid of one's primary and/or secondary sex characteristics 3. A strong desire for the primary and/or secondary sex characteristics of the other gender 4. A strong desire to be of the other gender 5. A strong desire to be treated as the other gender 6. A strong conviction that one has the typical feelings and reactions of the other gender

Thus, the aim of this study is to compare the DSM-5 and the ICD-10 diagnostic manuals in a Brazilian sample of transgender persons who seek health services specifically for physical transition.

Methods

Participants

In Brazil, any individual diagnosed with transsexualism according to the ICD-10 can undergo sex reassignment surgery (SRS), which is fully covered by the Brazilian Unified Health System (SUS). There are currently four centers qualified to perform such procedures. This study's sample consisted of adults and adolescents seeking health-care at two such clinics: the Gender Identity Program (PROTIG) at the Hospital de Clínicas de Porto Alegre, located in southern Brazil, and the Gender Identity and Sexual Orientation Service (AMTIGOS-NUFOR) at the Hospital de Clínicas, Faculdade de Medicina, Universidade de São Paulo, in São Paulo, southeastern Brazil.

All participants were either in the screening process (41%; $n=42$) or were beginning outpatient treatment prior to sexual reassignment surgery (SRS) (59%; $n=61$).

The exclusion criterion was the presence of comorbidities or cognitive impairments, since these would hinder the response to protocol. The sample consisted of 103 post-pubescent participants, aged 11 to 53 years (mean age = 28.7 ± 9.2 years). Among them, 79% ($n=81$) were assigned male at birth and 21% ($n=22$) were assigned female at birth. No subject was diagnosed with an overlapping DSD.

Measures

Participation in the study involved a structured interview lasting approximately 1 hour, which was administered by a trained research assistant. The structured interview used in the study was translated and adapted for the Brazilian population. The original protocol²⁰ included all diagnostic criteria from ICD-10, ICD-11 and DSM-5. However, only ICD-10 and DSM-5 questions were used in this study.

The survey instrument is divided into seven categories: sociodemographic data, gender identity and treatments, diagnostic criteria, marked gender incongruence, stigma and rejection, distress criteria, and disability. The survey instrument, based on participants' reports, evaluated a particular period of time, that is, when they first became consciously aware that they might be trans (incongruence between one's experienced gender and assigned sex). The stigma and rejection, distress criteria and disability categories were directed to the post-transition period. Since no subject had undergone SRS, the term 'post-transitional' was defined as after the subject had socially adopted a transgender identity. To fulfill the distress criteria, daily suffering (sadness, anxiety) must have been experienced for at least six continuous months. The intensity of emotion, as well as the intensity of discomfort with sexual characteristics, was assessed using a Likert scale varying from 1 (very little) to 5 (very strong). All questions related to time ("how long have you felt this way"; "how long has this been happening to you") were open-ended: the responses were categorized

according to persistency, that is, whether these feeling still occur or ceased post-transition.

The criterion 'time required to establish diagnosis', which is used in many manuals, was considered the time between onset of gender incongruity awareness and the moment the subject felt the need to begin hormonal treatment. At this point it is necessary to obtain a formal diagnosis for access to healthcare services.

Procedure

Data collection was conducted between May and December 2014. The research protocol was approved by the ethics committee of Hospital de Clínicas de Porto Alegre and Hospital de Clínicas, Faculdade de Medicina, Universidade de São Paulo (protocol no. 140255). All patients were invited to participate, and those who agreed were required to sign an informed consent form.

Data analysis

Descriptive and statistical analysis of central tendency was performed in SPSS version 20.0.

Results

A total of 103 transgender individuals were included. Most participants had been assigned male sex at birth ($n=81$ [79%]). Demographic characteristics by current gender identity are shown in Table 3.

Diagnostic confirmation

The ICD-10 diagnostic criteria for transsexualism and the DSM-5 diagnostic criteria for gender dysphoria are grouped and presented in Table 4.

Of the 103 subjects, three did not meet the diagnostic criteria of either classification system (ICD-10 or DSM-5) at the time they felt the need to start hormone treatment.

Gender identity and treatment

Hormone therapy (82.6%; $n=85$) and surgery (29.2%; $n=30$) were the most frequently used procedures for body transformation. Of the subjects who had undergone some type of body intervention, most claimed to have had it performed without qualified health monitoring at a given moment (62.1%; $n=64$).

The level of discomfort with sexual characteristics varied according to gender. Most participants with male expressed gender reported a strong or very strong level of discomfort with their chest (86.3%; $n=19$), voice (72.2%; $n=16$) and genitals (63.6%; $n=14$). Participants with female expressed gender reported a strong or very strong level of discomfort with their genitals (90.1%; $n=73$), chest (62.9%; $n=51$) and voice (42.8%; $n=39$).

The age at which the subjects first became aware that they could be transgender, that is, that their expressed gender was different from their birth-assigned sex, ranged from 3 to 24 years (mean = 9.5; standard deviation = 4.6). The average time between the subjects' perceived gender

Table 3 Demographic characteristics according to experienced gender

	Female n=81 (79.0)	Male n=22 (21.0)	Total n=103
Age group (years)			
11-18	12 (11.7)	2 (1.9)	28.7 (9.15)*
19-26	26 (25.2)	8 (7.8)	
27-34	18 (17.5)	6 (5.8)	
35-42	20 (19.4)	4 (3.9)	
43-50	4 (3.9)	2 (1.9)	
51-58	1 (1.0)	0 (0.0)	
Years of formal study (mean)	11.3	14	11.9
Marital status			
Married	10 (12.3)	2 (9.1)	12 (11.8)
Cohabiting	15 (18.5)	3 (13.6)	18 (17.6)
Single	51 (63.0)	16 (72.7)	67 (65.7)
Separated	3 (3.7)	0 (0.0)	3 (2.9)
Divorced	2 (2.5)	0 (0.0)	2 (2.0)
Employment status			
Employed full time	33 (40.7)	11 (50.0)	44 (42.7)
Employed part time	14 (17.3)	2 (9.1)	16 (15.5)
Student	19 (23.5)	5 (22.7)	24 (23.3)
Work at home	1 (1.2)	2 (9.1)	3 (2.9)
Retired	4 (4.9)	1 (4.5)	5 (4.9)
Unemployed	10 (12.3)	1 (4.5)	11 (10.7)

Data presented as n (%), unless otherwise specified.

* Mean (standard deviation).

Table 4 Diagnostic confirmation

Diagnostic criterion (n=103)	Included	Excluded	Reason for exclusion
ICD-10 (transsexualism)	93.2 (96)	6.8 (7)	One subject did not meet the essential criterion (criterion A). Four subjects did not meet the time criterion. Two subjects did not meet the significant distress or impairment in social or other important areas of functioning criterion (criterion D).
DSM-5 (gender dysphoria)	97.1 (100)	2.9 (3)	One subject did not meet the essential criterion (criterion A). Two subjects did not meet the significant distress or impairment in social or other important areas of functioning criterion (criterion B).

Data presented as % (n).

Table 5 Marked gender incongruence

Characteristic	Sample	Persistent	Post-transition
Desire to be a gender different from the one you were assigned.	100 (103)	92.2 (95)	4.8 (5)
Discomfort with following one's primary and/or secondary sex characteristics (in adolescents, anticipated secondary sex characteristics).	99 (102)	84.5 (87)	10.7 (11)
Attempts to change to be more similar to your desired gender.	95.1 (98)	86.7 (85)	13.3 (13)
Desire to live and to be treated and accepted as a person of the experienced gender.	89.3 (92)	77.7 (80)	8.8 (9)

Data presented as % (n).

incongruity and the initiation of hormone use, with or without professional help, was 107.2 months, or about nine years (minimum 2 months; maximum 456 months; standard deviation = 90.6).

According to the essential characteristics of the diagnostic criteria described in the manuals, to justify the demand for transition-related health care (Table 5), the unanimous response was that they felt a desire to be a different gender than their birth-assigned sex, with 96% (n = 99) identifying this desire as strong or very strong. Most of the subjects stated that the feeling of belonging to the other gender was persistent (Table 5), meaning it was present from the first moment they realized the incongruity

between their birth-assigned sex and their gender identity, persisting with or without hormonal or surgical interventions. A minority reported that (Table 5) after these post-transition interventions, the sense of incongruity ceased. Only 10.7% (n=11) said they had not yet made any attempt to socially assume their identified gender.

Diagnostic criteria and distress

Most of the participants (94.2%; n=97) said they felt significant distress (sadness, anxiety) related to their gender identity from the moment they realized the incongruity, whereas 70.9% (n=73) of the participants stated

Table 6 Distress criteria

Criterion	Sample
Felt and expressed psychological distress related to gender incongruity.	94.2 (97)
Following transition-related treatment and public expression: felt and expressed psychological distress related to gender incongruity.	84.5 (87)
Psychological distress caused by the conflict between an incongruous biological body and gender identity.	70.9 (73)
Psychological distress due to stigma and social reactions.	25.2 (26)

Data presented as % (n).

that this suffering was caused by the gender dysphoria itself, thus it came as a consequence of the emotional conflict of realizing the incongruity of their biological bodies with their gender identity (Table 6). Of the participants, 73.3% (n=65) reported perceiving that the suffering was persistent over the course of their lives. A smaller portion said that the suffering was due to stigma and prejudice towards manifesting gender incongruity (Table 5). Only 5.8% (n=6) of the participants said that they had not identified any suffering as a result of gender incongruity before or after the transition and public expression. Of these, half (n=3), despite not identifying suffering, reported impairment in social or other important areas of functioning due to the incongruity.

Gender incongruity and the feeling of rejection due to social stigma

Over 85% (n=88) of the participants claimed to have felt rejected because of their gender incongruity. The indices remained constant when analyzed by gender, with no significant difference between the feeling of rejection among men and women. Of those who felt lifelong rejection, 53% (n=47) said the feeling of rejection was permanent; however, 36.9% (n=38) of the people interviewed said the feeling of rejection lasted until beginning the transition to the expressed gender. Nonetheless, of those who reported feeling rejected who identified as male, 73.7% (n=14) claimed the feeling of rejection is constant, with or without transition. However, when the same question was directed to those in the post-transition period, this index declined to 67% (n=69). Of those who felt rejected because of gender incongruity, 45% (n=41) sought mental health treatment, either psychological or psychiatric, to cope with it. Of those who sought this type of treatment, 87.8% (n=41) received it, with the highest demand being for psychological services (n=25).

When asked how much the mental health treatment helped them cope with the feeling of rejection, 61% (n=22) said it helped strongly or very strongly. A small portion of the sample, 12.6% (n=13), sought mental health care in order to reverse gender incongruity.

Diagnostic criteria and loss in social functioning

Of the total sample, 85.2% (n=85) reported taking a leave of absence from their work/studies for reasons related to the incongruence between their assigned sex and gender identity. However, only 17.6% (n=15) reported taking a leave of absence from their work due to the suffering that the in-

congruence between their assigned sex and gender identity caused them. Of all those who took a leave, 82.4% (n=70) stated that it was due to social stigma and prejudice. During their worst week, the participants felt so maladjusted to their gender incongruity that their productivity at work/school was reduced to three days (P25: 0; P75: 7).

Discussion

According to the results, the diagnostic criteria in both the ICD-10 and the DSM-5 overlap in the sample, with the DSM-5 being more inclusive than the ICD-10. The point of convergence among the diagnostic systems was the marked gender incongruence category, described as discomfort with sexual characteristics or the desire to possess those of the other sex combined with the desire to live as the expressed gender. This was the main reason people sought body interventions. A single person was excluded from both diagnoses because they did not meet ICD-10 and DSM-5 criteria A. Unlike Criteria B and D, the search for clinical treatment for body changes while not accompanied by minimal discomfort should be investigated as something other than gender incongruity.

The exclusion criteria included the time factor and distress or social impairment. These are precisely the diverging views on how the phenomenon of transgenderism was contextualized and expressed in each rating system. These diagnostic discrepancies occurred because the criteria proposed by the transgender spectrum manuals are descriptive and not etiologic, and thus more susceptible to cultural bias.

The criterion of 'time required to establish the diagnosis' in the ICD-10 was the most exclusionary diagnostic criteria among the sample. It was considered as the time it takes between when individuals first perceive gender incongruence to when they feel the need to initiate the transition process with hormone treatment, i.e. the moment in which the person would need a formal diagnosis to have access to health services. Those excluded due to this criterion were youth (15, 17, 18 and 22 years old) who used hormones without medical supervision and reported distress. Since excluding such individuals through diagnostic criteria may mean depriving them of access to specialized health care, we support the more inclusive criterion.

It must also be considered that the concept of transgender is still complex in Brazil and difficult for most of the population to grasp. There is still confusion between sexual orientation and gender identity, probably remnants of the culture of sexuality theories that classified homosexuals as sexually inverted, and confusing this with transvestism.²¹ Due to a lack of information and

guidance, it is common, especially among those who realize the incongruity after puberty, to first think of themselves as homosexuals and only realize their transgendered condition later in life. Therefore, the time factor requires attention from health professionals, particularly when evaluating adolescents and young adults. If the trend of diagnosis exclusion continues in this age group, it may also reduce health care coverage, since there is a need for early intervention due to these individuals' state of vulnerability.²²⁻²⁵

The near decade-long wait to begin hormone treatment shows that Brazil's health services do not meet the demands of its transgender population. Specialized health services remain extremely limited and the wait for access to the health system is long. Despite efforts by the Ministry of Health and social movements promoting health and public policies aimed at comprehensive care for this population,²⁶⁻²⁸ the wait for SUS access is long. In addition to social taboos and the lack of training on the part of health professionals on the subject, specialized clinics for gender treatment are relatively recent. For example, 31% (n=32) of the sample were 18 years or older when the first specialized clinic was made available through SUS in 1997. The long wait, nine years on average, is also justified by the fact that more than 50% of the participants claimed to have realized, for the first time, their trans condition before the age of 10 and that hormone demand occurs at the beginning of puberty. It is at the beginning of puberty that this conflict is evident, because it is at this stage that secondary sexual characteristics can no longer be denied, and the search for interventions with hormonal or surgical treatment increases. Since a policy allowing puberty-blocking hormones is not available in Brazil, such treatment can be performed only within a research context. Thus, a significant percentage of the participants resorted to self-medicating with hormones. It is known that the use of sex hormones poses a risk to human health, regardless of their biological sex, and that this risk is greatly increased when the dosage is indiscriminate.²⁹ Access to health services and vulnerability prevention are linked to how early such service is established, preferably before adolescence.^{30,31} For this reason, it is necessary for public policies to be developed that do not focus only on transitioning from a male to a female body, or vice versa, but allow trans people to explore the gender identity in which they feel comfortable and, thus, find coping strategies in the face of social stigma.^{5,17}

Another diagnostic exclusion factor was the clinically significant distress or social impairment criterion that must be met for a positive diagnosis in both the DSM-5 (Criteria B) and the ICD-10 (Criteria D). However, among health professionals who assist transgender people, it is understood that the anxiety and inadequacy felt by transsexuals is mainly a result of the conflict between the individual's and society's moral values, which is also the source of the prejudice and social stigma to which they are culturally exposed.^{32,33} It is believed that in some families and social contexts, transgender people can be protected from prejudice and, consequently, from social suffering. However, this seems to be a distant reality in the Brazilian context. An extreme example of this was revealed in a

recent global survey administered by the German NGO, Transgender Europe, which reported 325 deaths due to transphobia in Brazil between 2008 and 2011.³⁴

Most of the participants claimed emotional distress predominantly associated with the conflict of having a somatic body that does not meet the needs of the expressed gender, rather than with stigma and prejudice. However, two of the subjects did not meet the 'significant distress or impairment in social or other important areas of functioning' criterion (criterion B). More comprehensive diagnostic criteria are needed due to the increasingly inclusive nature of society. However, clinical practitioners should be cautious to avoid neglecting the experience of suffering in mental health care contexts. Trans people, to a greater or lesser degree, must face a number of issues that cause suffering. Specifically, they must address their sexual development in a body that they perceive as incongruous with their gender, usually beginning at a very early age when emotional resources are fragile, and they must learn to adapt to a normative and stigmatizing social environment.

The results show that the discomfort with sexual characteristics, even in a population that specifically looks for SRS, is not limited to the genitals and that there is individual variation between the expressed genders regarding which characteristics should be changed so they can feel comfortable with their bodies.

In this study, the participants showed no overlapping DSD. In addition to its low prevalence (1:3,000 to 1:4,500 births), one reason for this result is that there are specific outpatient services for this population. However, the diagnostic overlap outlined by the DSM-5 is relevant and inclusive because rates of gender dysphoria in individuals with markedly ambiguous genitalia related to DSDs are greater than in the general population.³⁵

It is important to acknowledge the diversity of social and cultural contexts in controversies about diagnostic criteria for complex conditions such as transgenderism. However, it is central to consider the transgender person's autonomy and desired degree of transition, socially and physically, with or without surgery or hormonal therapy or cross-dressing.³⁶ However, we also recognize the significance of a gender diagnosis, thus, we do not want to interfere with the expressed gender, since the concept of gender as a spectrum has already been consolidated. Nevertheless, unlike homosexuality, which was removed from the WHO pathology list, transgender people seek medical procedures that must be standardized. From a clinical perspective, treating transgender people without establishing the necessary criteria would be considered reckless in light of the complexity of their care demands, public policy and insurance protocols. Thus, it is fundamental to consider the efforts of the different groups (APA-WHO) involved in the development of guidelines for diagnostic purposes are essential for the reliability of epidemiological and etiological studies and, as such, they can generate knowledge on this subject. Moreover, knowledge is the most effective way to fight the prejudice and social stigmas to which this population is exposed.

In terms of limitations, both of the clinics involved in this study offer SRS as a treatment option, which was found to

be the main demand. The data obtained for this study could be different when analyzed according to groups that do not wish to resort to surgery. Another limitation of the current study is its retrospective design, which is based on the participants' recollection of experiences at a very young age. Nevertheless, a prospective study would necessarily involve children, which would impose methodological and ethical difficulties.

Disclosure

The authors report no conflicts of interest.

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