

Gender dysphoria and psychiatric comorbidity: a ten-years descriptive study

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Summary

Objectives. Despite being recognized as an unfavourable prognostic factor for Gender Affirming Therapy (GAT) and for long-term psychosocial adjustment in gender dysphoria (GD), coexisting psychiatric disorders has rarely been assessed with standardized diagnostic instruments. This study aims to investigate sociodemographic features and to assess current and lifetime psychiatric coexisting disorders in subjects diagnosed with GD.

Methods. Our sample was composed by subjects attending CIDIGEM – a Public Health Service for GD people in Turin, Italy – in order to enter the programme for gender affirming therapy, from January 2005 to October 2015. All subjects fulfilled the criteria for GD according to the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR/DSM-5). All subjects underwent an accurate diagnosis about their gender disorder, in order to investigate the coexisting mental health concerns and to distinguish these from gender dysphoria for ascertain eligibility and readiness for hormone and/or surgical gender affirming therapy. All patients have been comprehensively evaluated independently by two mental health professionals, competent to work with GD adults, via psychological and psychiatric interviews and particularly with Semi-Structured Clinical Interview (SCID I and SCID II) and Global Assessment Functioning (GAF). Statistical analysis was conducted using SAS ver 9.3 Istitute Inc., Cary, NC, USA. Between-group comparisons of categorical variables were performed using chi-square analysis. The significance level was set at $p < 0.05$.

Results. In 10 years of clinical activity, a consecutive series of 462 patients referred to CIDIGEM in Turin (Italy) from January 2005 to October 2015 in order to enter the program for gender affirming therapy. Two hundred and ninety-eight subjects fulfilled the criteria for Gender Dysphoria and were enrolled in the study with their written informed consent. Among the 298 subjects enrolled in the study, 201 (67.45%) and 97 (32.55%) met the criteria for MtF and FtM GD, respectively. The MtF:FtM sex ratio was 2.07:1. The mean age at the first access to our clinic was 32.27 ± 10.78 years.

We have found differences among the socio-demographic features analyzed in the two subgroups (MtFs, FtMs), such as sex ratio, but in age, family relationships, sexual orientation, history of prostitution and sexual abuse they were statistically significant ($p < 0.05$). A positive correlation was found between higher rate of prostitution, older age and lower level of education. A positive history of psychiatric comorbidity diagnosis according to DSM (N = 298) was found in 55.03% (N = 164) of subjects. In the current anamnesis, instead, we found that 49.66% (N = 148) of the sample was referable to axis I disorders and 18.79% (N = 56) to axis II, above all cluster B disorders. A comparison of the distribution between past and current Axis I anamnesis showed that anxiety, mood disorders and adjustment disorders were the most represented. We used the Global Assessment of Functioning (GAF), a numeric scale, to evaluate the social functioning and the majority of subjects (N = 203/297, 68.35%) were functioning above 61 or had some weak symptoms. No statistically difference has been found between MtFs and FtMs. In our sample the current presence of psychiatric diagnosis was a contraindication to Gender Affirming Surgery (GAS) only in 0.50% of MtFs, while in 16.10% of MtFs and in 13.19% of FtMs it was necessary to use caution and strengthen the mental health monitoring of these subjects.

Conclusions. According to our data GD is an independent clinical condition and according to some authors we regard GD as a nosological entity and assume psychiatric



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Conflict of interest

The Authors declare no conflict of interest.

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comorbidity as a consequence of the persistent gender dysphoria. We found a higher levels of Axis I and II psychiatric coexisting disorders in patients with a GD diagnosis than the general population. Psychiatric coexisting disorders are often connected to minority stress related to gender dysphoria as a psychological reaction to GD condition, and they are almost never a contraindication for gender affirming therapy, if the patient is under good psychopathological control. Several hypotheses could explain this result. Mental health professionals working in gender unit like CIDIGEM are formed to investigate and take care of coexisting psychiatric disorders, given their prognostic impact. This could be explained by our assessment methods which were conducted with standardized diagnostic instruments and also by the sensitivity of the professionals: they were able to identify and eventually treat subthreshold disorders in order to improve them. Our sample does not represent all trans people and ours results have to be interpreted prudently. Finally, our data are in accord with WPATH International Standards of Care that state: "When mental health concerns are present, it must be well controlled before hormone and surgery therapy".

Key words: gender dysphoria, gender identity disorder, psychiatric disorders

Introduction

Sexual identity is a multidimensional construct that encompasses four elements: biological sex, gender identity, gender role and sexual orientation. Biological sex is the sex assigned at birth, refers to one's biological status as either male, female or intersex, while gender identity refers to a person's internal sense of being male, female or some category other than male or female. When one's gender identity and biological sex are not congruent, the individual may identify along the transgender spectrum^{1,2}. In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders - DSM-5³, Gender Dysphoria (GD) is defined as a condition characterized by a marked incongruence between one's experienced/expressed gender and the assigned one, and is associated with clinically significant distress. Previous term for GD was Gender Identity Disorder in DSM-IV-TR⁴. A person whose assigned sex at birth is female but has a male gender identity is a transman (also known as female-to-male or FtM), conversely a transwoman is a person whose assigned sex at birth is male but has a female gender identity (also known as male-to-female or MtF). In adults with GD, the discrepancy between experienced/expressed gender and sex assigned at birth is often accompanied by a desire to be rid of one's primary and/or secondary sex characteristics and/or a strong desire to replace one's primary and/or secondary physical sex characteristics with those of the other gender. According to the literature, GD is a very complex clinical condition that can not be explained by one single cause⁵⁻⁸. Following the biopsychosocial model, GD results of complex interaction between several features like genetic, hormonal and psychological factors⁹⁻¹². The nature of these interactions is not completely understood.

Since these studies have relied on clients seen by gender identity specialists or clinics, it has been argued that the true prevalence of GD (transsexualism) could be underestimated because it is difficult to get an accurate estimate of GD prevalence due to several bias: social tolerance of GD depend on country and studies largely consider hospitaliers cohorts but not all affected individuals might seek out care at specialized centers¹³. In a recent meta-analysis regarding prevalence studies for gender dysphoria, the overall prevalence was reported as 1:14705 for MtFs and 1:38461 for FtMs¹⁴. According to many authors, the number of individuals with gender dysphoria (GD) has increased over the years in western countries¹⁴⁻¹⁶. As example, K.J. Zucker¹⁷ highlights an increase in the prevalence of gender dysphoria in adulthood. In the past, sex-ratio was in favour of transwomen but in the last few years, many authors observe a rise of transmen asking for affirming care¹⁸⁻²². In recent years, indeed, an increase in FtMs has been observed, with two countries showing a clear inversion of the sex ratio with a prevalence of FtMs: Japan (2.2:1) and Poland (3.4:1)^{3,18,23}.

GD people that want to comply sex assigned at birth with the perceived gender identity and ask help to healthcare services undertake a transitioning pathway regulated by specific legislation. In Italy, since 1982, according to the Law n. 164/1982 and jurisprudential developments, trans people can undergo gender affirming surgery. In the past, surgical operation was necessary to get identity card change. Since 2015, thanks to the ruling Pronunciation n. 221/2015 of the Constitutional Court, trans people can get name change even without hormonal and/or surgical therapy. However, the Constitutional Court reiterates the importance of the seriousness and irreversibility of the path chosen by the individual and a local court must confirm through rigorous technical investigations the completion of the transitioning process. The high complexity of transitioning process requires not only a specific legislation but also a global and personalized clinical approach in specialistic centers. In Piedmont, Italy, the clinical center dedicated to transitioning pathways of GD subjects is named CIDIGEM (Centro Interdipartimentale Disturbi Identità di Genere Molinette), whose operating protocol is based on international guidelines among which the seventh version of the World Professional Association for Transgender Health (WPATH) Standards of Care²⁴ and national guidelines²⁵.

CIDIGEM is a multidisciplinary gender team, made up of psychologists, psychiatrists, endocrinologists, urologists, plastic surgeons, gynecologists and members of the ONIG (Osservatorio Nazionale sull'Identità di Genere), the National Observatory on Gender Identity. In particular, psychologists and psychiatrists are involved in providing and supporting GD people mental health care.

In the past, GD was considered by some authors to be part of an underlying psychiatric comorbidity, namely borderline personality or psychotic disorder^{26,27}. Other authors considered GD as a nosological entity and assumed psychiatric comorbidity as a consequence of the persistent

gender dysphoria and the concomitant psychosocial distress²⁸⁻³⁰. People presenting with gender dysphoria may struggle with a range of mental health concerns³¹⁻³². A literature review published on 2016 show that the prevalence of psychiatric disorders in GD people is higher than general population³³.

The most frequent psychiatric disorders in GD people are anxiety and mood disorders. It is important to point out that suicide risk is significantly higher in trans people than in general population. While psychiatric coexisting disorders tend to decrease and to reach the general population level after gender affirming cares, suicide risk for transgender remains relevant^{13,34,35}.

There is a lack in the scientific literature about the co-existence of GD and mental health issues in Italian transgender population. This study aims then, thanks to CIDIGEM experience, to:

- investigate sociodemographic features of the GD sample assisted by CIDIGEM;
- assess current and lifetime prevalence of psychiatric comorbidity on Axes I and II in subjects diagnosed with Gender Dysphoria (GD).

Methods

A cross-sectional study was performed in order to recruit all the patients who referred to CIDIGEM from 2005 to 2015 and fulfilled the inclusion criteria. The first criterion of inclusion was meeting the GD requirements according to the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR/DSM-5), while the second one was to have not yet undergone any genital surgery as gender affirming therapy.

According to national ONIG and international WPATH standards of care, all the patients underwent an accurate diagnosis about their gender disorder, in order to investigate the coexisting mental health concerns and to distinguish these from gender dysphoria for ascertain eligibility and readiness for hormone and/or surgical gender affirming therapy.

All patients have been comprehensively evaluated independently by two mental health professionals, qualified to work with adults with GD diagnosis, via psychological and psychiatric interviews, and all the data were collected as part of the clinical and psychodiagnostic routine procedure. Socio-demographic features have been assessed by analyzing patient medical records. We collected socio-anagraphic data, medical history, including patient's medical issues, past surgical history, family medical history, social history and medications, psychosexual development, sexual activity and habits. The presence of coexisting psychiatric disorders has been evaluated via Semi-Structured Clinical Interview for DSM-IV (SCID I and SCID II)^{36,37} to assess axis I and axis II disorders.

Since this study enrolled patients from 2005 to 2015, we decided to keep this subdivision in order to compare our data with previous studies in literature where psychiatric

comorbidity was still assessed as axis I and axis II disorders.

We used the Global Assessment of Functioning (GAF)³⁸ to evaluate the social functioning. GAF is a numeric scale used by mental health clinicians to rate subjectively the social, occupational, and psychological functioning of an individual. Scores range from 100 (extremely high functioning) to 1 (severely impaired).

This study has been approved by the Ethics Committee Intercompany AOU Città della Salute e della Scienza of Turin - AO Order Mauriziano - ASL "City of Turin" on 5 March 2018 (file no. CS2 / 579). Written informed consent was obtained from each participant.

Statistical analysis

Statistical analysis was conducted using SAS (vers. 9.3 Institute Inc., Cary, NC, USA). Frequencies are expressed using percentages for categorical variables and mean \pm SD (standard deviation) or median (Interquartile range) for continuous variables. Between-group comparisons of categorical variables were performed using chi-square analysis. The significance level was set at $p < 0.05$.

Results

In 10 years of clinical activity, a consecutive series of 462 patients referred to CIDIGEM in Turin (Italy) from January 2005 to October 2015 in order to enter the program for gender affirming therapy. Two hundred and ninety-eight subjects fulfilled the criteria for Gender Dysphoria and were enrolled in the study with their written informed consent. Among the 298 subjects enrolled in the study, 201 (67.45%) and 97 (32.55%) met the criteria for MtF and FtM GD, respectively. The MtF:FtM sex ratio was 2.07:1. The mean age at the first access to our clinic was 32.27 ± 10.78 years. MtFs were significantly older than FtMs (mean age 33.61 ± 10.98 years vs 29.47 ± 9.85 years; $p = 0.002$). The average number of new cases per year was 42.

The 63,85% (N = 190) of the subjects underwent all the diagnostic-therapeutic process at CIDIGEM from diagnosis to hormone and/or surgical treatments, while 25% (N = 74) of GD patients were already diagnosed in other dedicated centers and referred to CIDIGEM only for the Gender-Affirming Therapy, finally 11.15% (N = 34) had a mixed process. Regarding country of birth, 8.05% (N = 24) were from non-EU countries, while 87.92% (N = 262) were Italian natives. The 61% (N = 184) live in Northern Italy. No significant differences were found between the two subgroups (MtFs vs FtMs; $p = 0.08$).

The main sociodemographic features of the sample are reported in Table I.

No statistically significant differences between MtFs and FtMs were observed with regard to average educational level, relationship and parenthood. In particular, average educational level was 11.34 ± 3.29 years, 70.61% (N = 209) of the subjects were employed and only 3.72%

Table I. Characteristics of the sample, n (%).

	Tot n = 298	MtF (n = 201)	FtM (n = 97)	p-value
Education level (years)	11.34 ± 3.30	11.24 ± 3.30	11.57 ± 3.27	0.422
Occupation, n (%)				0.040
Employed	209 (70.61)	133 (66.50)	76 (79.17)	
Unemployed	69 (23.31)	50 (25.00)	19 (19.79)	
Retired	7 (2.36)	7 (3.50)	0 (0.00)	
Sex Worker	11 (3.72)	10 (5.00)	1 (1.04)	
Adopted, n (%)	8 (2.71)	-	-	-
Civil Status n (%)				0.378
Single	197 (66.55)	127 (63.82)	70 (72.16)	
Stable Relationships cohabitation	77 (26.01)	54 (27.14)	23 (23.71)	
Married	18 (6.08)	15 (7.54)	3 (3.09)	
Separated-Divorced	4 (1.35)	3 (1.51)	1 (1.03)	
Parenting n (%)	11 (3.69)	-	-	-

(N = 11) were sex workers. The 66.67% (N = 198) of the patients were not in any type of relationship, while 3.69% (N = 11/298) had biological children; 2.71% (N = 8/295) of subjects were adopted.

Conversely we have found significant differences in the two subgroups (MtFs, FtMs) in sexual orientation ($p < 0.001$), absence of family relationships ($p = 0.023$), history of prostitution ($p < 0.001$) and sexual abuse ($p = 0.006$).

Regarding sexual orientation (N = 298), sexual attraction exclusively toward same genotypic sex is the most prevalent. Then heterosexuality, according to their gender identity, is the prevalent sexual orientation ($p < 0.001$). The 86.57% of MtFs (N = 174) are attracted to males and 4.98% (N = 10) to female, while FtMs are frequently attracted to women (86.60%, N = 84) with 6.19% (N = 6) presenting homosexual orientation ($p < 0.001$). Bisexuality is declared in 6.47% (N = 13) and 7.22% (N = 7) for MtFs and FtMs, respectively, while 1.99% (N = 4) MtFs and 0.00% (N = 0) FtMs are attracted to neither males nor females.

Regarding psychosocial history (N = 283), the comparison between MtFs and FtMs was statistically significant in both history of sexual abuse and prostitution. In particular, 12.11% (N = 23) MtFs vs 2.15% (N = 2) FtMs had a positive history of sexual abuse ($p = 0.003$); while 25.26% (N = 49) MtFs vs 1.08% (N = 1) FtMs had a positive history of prostitution ($p < 0.001$). A positive correlation was also found between prostitution and older age (OR 1.03; CI95% 1.01-1.06, $p = 0.036$) and lower level of education (OR 0.31; CI95% 0.19-0.51; $p < 0.001$), meaning a positive history of prostitution had a higher probability to be observed in older patients presenting low educational level.

Family relationships were divided in 3 categories: good relationships, conflicting relationships and no family connections. Good family relationships were the most represented and were comparable between subgroups (63.00%, N = 126 MtFs; and 63.83%, N = 60 FtMs). Conflicting relationships were higher in FtMs (30.85%, N = 29 vs 22.50%, N = 45), while no family connections were reported in 11.00% (N = 22) of MtFs and in 3.19% (N = 3) of FtMs.

A positive history for suicide thoughts/attempts has been found in 34/193 patients (17.62%), while a positive history of psychiatric hospitalization in 12 subjects (4.03%).

A positive history of psychiatric comorbidity diagnosis according to DSM (N = 298) was found in 55.03% (N = 164) of subjects. In the current anamnesis, instead, we found that 49.66% (N = 148) of the sample is referable to axis I disorders and 18.79% (N = 56) to axis II. A comparison of the distribution between past and current Axis I anamnesis showed that anxiety, mood disorders and adjustment disorders are the most represented (Fig. 1).

Among current Axis I disorders the distribution of specific disorders was:

- anxiety disorders in 70.47% (N = 105/149), in particular 16.19% (N = 17) is Generalized Anxiety Disorder (GAD), 23.81% (N = 25) is Panic Disorder and 4.76% (5) is anxiety caused by substances abuse;
- mood disorders in 52.70% (N = 78), in particular major depression in 26.92% (N = 21) and bipolar disorder in 5.13% (N = 4);
- adjustment disorders in 38.67% (N = 58);
- substances related disorders in 27.33% (N = 41), with 92.68% (N = 38) consuming occasionally cannabinoids

Current Axis I distribution

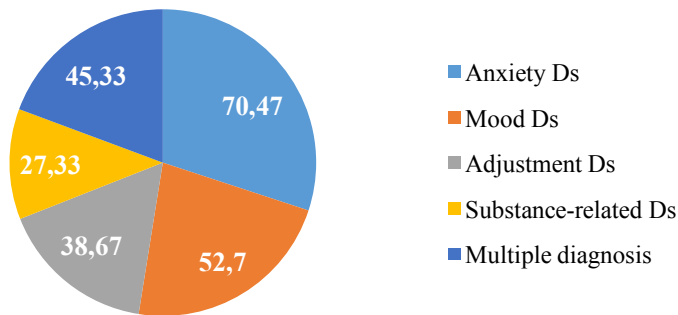


Figure 1. DSM Axis I diagnoses of GD subjects (n = 148).

or alcohol before to start the gender affirming therapy;

- more than one diagnosis in 45.33% (N = 68).

We also found that 4.67% (N = 7) of the subjects had eating disorders while schizophrenia and other psychotic disorders were found to be irrelevant (2.67%, N = 4). Axis II psychiatric comorbidities are related to personality disorders (N = 64/297, 21.5% of the sample). The cluster A personality disorder was found in 5 patients (7.81%), a cluster B diagnosis in 35 patients (54.59%), a cluster C diagnosis in 11 patients (17.19%) and a personality disorder not otherwise specified in 13 patients (20.31%), as shown in Figure 2. Thus, 233 patients (78.45%) have no personality disorder comorbidity.

The global assessment of psychological, social and occupational functioning (GAF) found that the majority of subjects (N = 203/297, 68.35%) are functioning above 61 or have some weak symptoms.

In our sample the current presence of psychiatric diagnosis was a contraindication to Gender Affirming Surgery (GAS) only in 0.50% of MtFs, while in 16.10% of MtFs and in 13.19% of FtMs it was necessary to use caution and strengthen the mental health monitoring of these subjects.

Current Axis II distribution

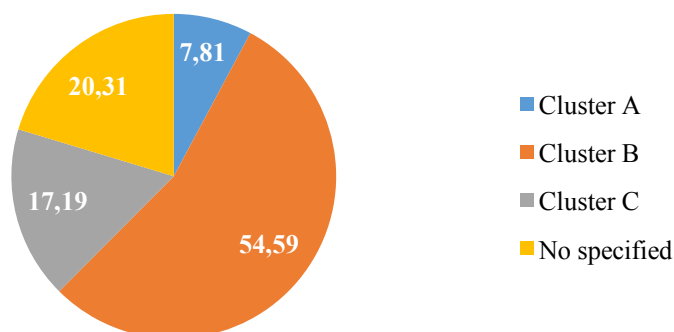


Figure 2. DSM Axis I diagnoses of GD subjects (n = 148).

Discussion and Conclusions

Our cross-sectional study aimed to investigate sociodemographic features of a Gender Dysphoria sample of patients assisted by the CIDIGEM center of Turin (Italy) and to assess in the same sample the current and lifetime prevalence of psychiatric comorbidities on Axes I and II.

Our sample cannot represent all trans persons, but only the GD subjects, seeking for professional treatment, according to standards of care.

We have found significant differences between the two subgroups (MtFs, FtMs) in terms of sociodemographic characteristics except psychiatric comorbidities and social functioning. Our data confirm those of the literature with respect to the ratio MtFs vs FtMs: literature ratio = 2.5:1 (CIDIGEM ratio = 2.07:1)¹⁴; also agreeing with a previous study involving 140 GD subjects enrolled from several Italian dedicated centers (sex ratio = 1,9:1)³⁹.

Further studies confirming the inversion of the sex ratio in favor of FtM subjects have emerged in the last year. A study conducted in Asturias analyzed a sample of 42 adolescents up to the age of 18 between 2016 and 2019, finding a sex ratio of 2:1 in favor of transmen, who also made up the majority (93%) of service seekers in the 2018, the year of greatest attendance to the Gender Identity Treatment Unit⁴⁰.

A study conducted in Germany, which collects clinical data from a sample of 350 patients in the period between 2009 and 2017, found a sex ratio of 1:1.89 in favor of FtM subjects for the first time compared to studies conducted previously, with a significant increase in transmen starting from 2013. In this study there is also a greater satisfaction in transmen to the results of hormonal therapy, with a 100% for transmen vs 96% for transwomen⁴¹.

Positive social history of prostitution and sexual abuse was almost exclusively present in the transwomen subgroup. We found a significant relation among prostitution, age and level of education. Prostitution was higher in the older and less educated transwomen people. Transmen subgroup in our sample showed more frequently conflicts in their relationships with the family, while transwomen more often declared to have no contacts with the family. Probably, the social (and familiar) stigma is more evident for transwomen since their feminine characteristics and behaviours are less acceptable and often associated to prostitution and then source of shame for the family of these subjects. In some way, we can confirm a previous study of Fisher AD et al. who claimed that FtMs display better social functioning³⁹. Social stigma and conflicts or no contacts with family can be acknowledged as potential source of minority stress in transgender people⁴².

Our data on Current Axis I diagnoses are higher than those found in several (but not all) studies described in the international literature^{28,39,43-47}. Few articles in literature reports levels of current psychiatric Axis I comorbidity similar to those reported by us^{48,49}.

Our data showed Axis I psychiatric comorbidities mainly

related with mood, anxiety disorders and adjustment disorders as confirmed in previous studies^{28,43,50}. Subjects used drugs only occasionally and most of these were soft drugs and the subjects did not show any kind of dependence. It is very interesting to observe how these disorders are mild and not severe and they do not impede the subject from following the gender affirming process. A possible reason of that is our tendency to explore and eventually treat subthreshold anxiety and mood symptoms too, in order to achieve a better clinical outcome.

Our data show a lower percentage of psychiatric comorbidities on Axis II than that found in literature, but according to literature, they confirm the presence of personality disorders in the GD population. In particular Cluster B have been identified as the most frequently diagnosed among Axis II disorders^{28,47,50-52}.

According to our results and to some authors^{28,29,44}, we consider GD as a clinical condition that does not associate with severe psychopathology and it thus can be considered independent.

For us, the psychiatric comorbidity is often a psychological reaction to GD condition, and it almost never forbids Gender Affirming Surgery, if the patient is under good psychopathological control.

This follows the 2011 WPATH International Standards of Care that state: "When Mental Health concerns are present, it must be well controlled before hormone and surgery therapy". When gender dysphoria coexists with severe psychopathological conditions such as psychosis, these conditions must be compensated by using psychotropic medication and/or psychotherapy prior to gender affirming therapy. No surgery should be performed while a patient is actively psychotic⁵³.

This study assessed the psychiatric comorbidities in GD subjects, further studies are necessary, especially in order to evaluate – using standardized diagnostic instruments – if psychiatric comorbidity might influence the post GAT outcome. In this regard, another research of CIDIGEM, not yet published, have investigated the impact of psychiatric coexisting disorders on post-surgical outcome, considering their impact on different features like sexual satisfaction and quality of life after surgery.

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