

Childhood Trauma and Social Support: Effects on Treatment Compliance in Gender Dysphoria

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Abstract

Objective: To assess the sociodemographic, clinical, and psychiatric characteristics of individuals with gender dysphoria (GD) and the impact of these characteristics on treatment compliance.

Methods: All individuals with GD who were admitted to the clinic for endocrinological treatment were asked to participate in this cross-sectional study. Individuals with GD who came for control every three months in the first year and every six months from the second year were regarded as “regularly followed,” and those who did not comply were regarded as “loss to follow-up.” The GD group was also paired with age-matched cisgender male and female volunteers. Data regarding the individuals’ Gender-Affirming Treatment processes were obtained retrospectively from medical charts. All participants were asked to complete the Social Adaptation Self-evaluation Scale, childhood trauma questionnaire (CTQ), and Multidimensional Scale of Perceived Social Support. Results were compared between groups.

Results: This study included 50 individuals with GD who were assigned female at birth (AFAB-GD), 50 individuals with GD who were assigned male at birth (AMAB-GD), 28 cis-males, and 48 cis-females. AMAB-GD had higher CTQ, emotional, and sexual abuse scores than AFAB-GD ($P = .04$; $P = .03$; $P = .012$; respectively). The rate of regular follow-up was higher for AFAB-GD ($n = 48, 77.1\%$) than AMAB-GD ($n = 39, 56.4\%$) ($P = .04$). Among GD individuals who missed follow-up sessions, AMAB-GD ($n = 17, 64.7\%$) had higher suicide rates than AFAB-GD ($n = 11, 9.1\%$) ($P = .004$).

Conclusions: Childhood trauma, particularly in the subcategories of emotional and sexual abuse, may be some of the reasons why AMAB-GD fail to follow up and comply with treatment.

Keywords: Childhood trauma, gender dysphoria, treatment compliance

Introduction

Gender dysphoria (GD) is defined as the discomfort or distress caused by the discrepancy between an individual’s gender identity and the gender assigned to them at birth.¹ Gender dysphoria has gradually increased over the past couple of decades, with a prevalence rate ranging from 0.5 to 1.3%.²

The majority of individuals diagnosed with GD seek treatment to gradually harmonize their physical sex characteristics with their respective gender identity through a process called gender-affirming treatment (GAT).³ Gender-affirming treatment can be classified into four components: social transition, psychotherapy, gender-affirming hormone therapy (GAHT), and gender-affirming surgery (GAS).⁴ Gender-affirming treatment is an on-demand process. Thus, an individual with GD may choose not to undergo every component of GAT. Nevertheless, the majority of individuals with GD, even those who do not wish to pursue GAS, choose to

undergo GAHT.⁵ Testosterone replacement is the principal methodology for GAHT in individuals with GD assigned female at birth (AFAB-GD). Estrogen replacement, with or without anti-androgen, is the principal methodology for GAHT in individuals with GD assigned male at birth (AMAB-GD).⁵

Individuals with GD have a high rate of failing to follow up after their treatments. Some studies have indicated that AFAB-GD individuals have more regular follow-ups than AMAB-GD individuals.⁶ Although a lack of cultural competence by health care providers has been blamed in some societies,⁷ it is clear that further explanation is necessary for the discrepancy between these follow-up behaviors. In this regard, psycho-social determinants may also have a role in failing to follow up.

In this study, we aimed to assess the sociodemographic, clinical, and psychiatric characteristics of individuals with GD, and the impacts of these characteristics on GAHT compliance of individuals.

Methods

Study Sample

All individuals with GD consecutively admitted to the Endocrinology-Metabolism and Diabetes outpatient clinic of İstanbul University-Cerrahpaşa-Faculty of Medicine for an endocrinological visit were fully informed and asked to participate in

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this cross-sectional study. Individuals with GD over the age of 18 who provided consent were included. Individuals with neurological conditions, metabolic diseases, or disorders of sex development were excluded. Individuals with GD who came for control every three months in the first year and every six months from the second year were regarded as “regularly followed,” and those who did not comply were regarded as “loss to follow-up.” Those who completed at least 2 visits were included in the follow-up analysis. Single-visit admissions were included in other analyses. The endocrinological follow-up period began with the initial evaluation at the Endocrinology-Metabolism and Diabetes outpatient clinic upon referral from psychiatry. A power analysis was performed to determine the sample size. An alpha level (α error) of 0.05, a power of 80% (β), and an effect size (Cohen’s d) of 0.5 were used. As a result of the power analysis, each group of GD individuals consisted of 50 people. One hundred individuals with GD (50 AFAB-GD and 50 AMAB-GD) and 76 age-matched cisgender volunteers (28 males and 48 females) were included in the study for scale evaluations. Two cisgender individuals with metabolic illnesses were excluded.

The initial diagnosis of GD was made according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5).¹ After the diagnosis of GD was confirmed by an experienced psychiatrist (Ş.T.) through a series of psychosocial evaluations, all the participants of the present study who were ready to undergo treatment within the framework of the overall treatment plan were referred to the transgender outpatient clinic for endocrinological follow-up sessions.

Data Collection and Procedure

Data regarding the sociodemographic features, medical history, comorbid diseases, GAT, health behaviors (such as alcohol/smoking habits and substance abuse), duration of real-life experience, and the reason(s) for an initial referral to the tertiary center were obtained from the medical charts of individuals with GD. Additional information regarding sexual orientation, formerly or currently diagnosed psychiatric conditions and treatments, presence or absence of suicidal behaviors, income level, presence of any relatives with GD, relationship status, and family engagement in GAT were obtained through a questionnaire prepared in the psychiatry department (Ş.T.). Suicidal ideation was defined as any thoughts of taking one’s own life, suicidal planning as the formulation of a specific method or plan to commit suicide, and a suicide attempt as any behavior with the intent to end one’s life. This information was obtained through direct questioning, assessing both past and present experiences. After obtaining written informed consent, the same physician (A.Ç.U.) administered the questionnaires directly to the individuals in a private room reserved in the outpatient clinic during routine follow-up visits.

All participants were also asked to complete the psychiatric inventories detailed below.

Psychosocial Assessment Tools

The Social Adaptation Self-Evaluation Scale (SASS)

This is a 21-item self-assessment scale developed by Bosc et al.⁸ It covers various areas of social functioning including work, leisure, and the ability to regulate and cope with family and the environment. The Turkish validity and reliability study of the scale was performed by Akkaya et al.⁹

The Childhood Trauma Questionnaire (CTQ)

This is a 28-item scale developed by Bernstein et al to provide a brief, reliable, and valid assessment of a broad range of traumatic

experiences in childhood.¹⁰ The Turkish validity and reliability study of the scale was carried out by Şar et al.¹¹

The Multidimensional Scale of Perceived Social Support (MSPSS)

This is a 12-item questionnaire developed by Zimet et al to identify an individual’s perceived level of social support with family, friends, and a significant other.¹² The Turkish validity and reliability study of the scale was performed by Eker and Arkar.¹³

Statistical Analysis

Statistical analyses were performed using the Statistical Package for Social Sciences version 21.0 software (IBM Corp.; Armonk, NY, USA). Results were tested at the 95% confidence interval, with a P -value $<.05$ considered significant.

Ethical Considerations

The study was approved by the local ethics committee of İstanbul University-Cerrahpaşa, Cerrahpaşa Faculty of Medicine (Approval no: 83088843-604.01.01-95772, Date: July 24, 2020). All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the Declaration of Helsinki as revised in 2013 and its later amendments or comparable ethical standards.

Results

Participants’ Characteristics

The clinical and sociodemographic characteristics of each group are summarized in Table 1.

Psychosocial Assessment

The social adaptation scores of individuals with GD were not significantly different from those of cisgender controls according to the SASS ($P = .193$).

The SASS, CTQ and MSPSS scores of the study groups are shown in Table 2. The childhood trauma of the participants is shown in Table 3 as four groups. Childhood trauma, particularly in the sub-categories of emotional and sexual abuse, was more prevalent in individuals with GD compared to cisgender controls ($P = .03$; $P = .006$; $P = .001$; respectively). In the GD group, childhood trauma, including emotional and sexual abuse of AMAB-GD individuals, was more common than of AFAB-GD individuals ($P = .04$; $P = .03$; $P = .012$; respectively).

Family support scores were lower for individuals with GD than for cisgender controls according to the MSPSS ($P = .008$). In the GD group, AMAB-GD individuals had less family support and lived alone more often ($P = .044$), while AFAB-GD individuals lived more frequently with their families ($P = .048$).

Suicidality

The suicidality was higher in individuals with GD ($P = .008$). assigned male at birth GD individuals had the highest suicidality among groups ($P = .001$). The suicidality of individuals with GD, in line with their follow-up patterns, is shown in Figure 1.

Endocrinologic Characteristics’ and Gender-Affirming Hormone Therapy

In the GD group, 2 AFAB-GD individuals and 11 AMAB-GD individuals had just started the follow-up, so they could not be categorized according to the follow-up patterns. The rate of regular follow-up was greater for AFAB-GD individuals ($n = 48$, 77.1%) in comparison to AMAB-GD individuals ($n = 39$, 56.4%) ($P = .04$).

Table 1. Clinical and Sociodemographic Characteristics of the Participants

Features	GD Group		Control Group		P
	AFAB-GD (n = 50)	AMAB-GD (n = 50)	Cis-Males (n = 28)	Cis-Females (n = 48)	
	<i>Mean ± SD or n (%)</i>				
Age	26 ± 5.9	29 ± 7.1	27 ± 4.2	25 ± 5.0	.182
Education status					
Primary school	0 (0)	3 (6)	1 (3.6)	0 (0)	
Middle school	6 (12)	4 (8)	1 (3.6)	4 (8.3)	.067
High school	25 (50)	17 (34)	15 (53.6)	14 (29.2)	
University	19 (38)	26 (52)	11 (39.2)	30 (62.5)	
Occupation					
Student	12 (24)	9 (18)	3 (10.7)	13 (27.1)	
Blue-collar	15 (30)	15 (30)	11 (39.2)	7 (14.6)	
Civil servant	5 (10)	2 (4)	6 (21.4)	16 (33.3)	.001*
Self-employment	10 (20)	7 (14)	7 (25.0)	4 (8.3)	
Other	8 (16)	12 (24)	1 (3.6)	8 (16.7)	
Sex worker	0 (0)	5 (10)	0 (0)	0 (0)	
Incomelevel ^a					
<1000 TL	11 (22)	16 (32)	2 (7.1)	11 (22.9)	
1000-2000 TL	11 (22)	6 (12)	2 (7.1)	8 (16.7)	.100
2000-3000 TL	12 (24)	8 (16)	6 (21.4)	6 (12.5)	
>3000 TL	16 (32)	20 (40)	18 (64.3)	23 (47.9)	
Habits					
Smoking	29 (58)	27 (54)	17 (60.7)	12 (25)	.002*
Alcohol	31 (62)	36 (72)	16 (57.1)	14 (29.2)	.001*
Substance	3 (6)	7 (14)	0 (0)	0 (0)	.011*
Depression	13 (26)	18 (36)	4 (14.3)	11 (22.9)	.186
Suicidality ^b	8 (16)	18 (36)	1 (3.6)	5 (10.4)	.001*
Living alone	5 (10)	18 (36)			.044*
Living with family	18 (36)	9 (18)			.048*

^aMinimum national wage = 2825 TL. ^bSuicidality = Suicide ideation or attempt. *P < .05, considered statistically significant values were shown in bold. AFAB, Gender assigned female at birth; AMAB, Gender assigned male at birth; GD, Gender dysphoria; SD, Standard deviation; TL, Turkish Liras.

The comparisons of individuals with GD loss to follow-up and regularly followed are shown in Table 4.

Eighty-two (n = 100, 82%) individuals with GD participating in the study were using hormones. While 72% of the AMAB-GD individuals (n = 43) started hormone use without the supervision of a physician, 79.5% of the AFAB-GD individuals (n = 39) started hormone use under the supervision of a physician (P < .001). While the duration of supervised GAHT was longer in AFAB-GD individuals than in AMAB-GD individuals (28.9 ± 14.9 months vs. 20 ± 15.8 months) (P = .002), the duration of unsupervised GAHT was longer in AMAB-GD individuals when

compared to AFAB-GD individuals (63.5 ± 33.8 months vs. 6.2 ± 1.7 months) (P < .001).

None of the participants in this study had undergone GAS. This is an important consideration, as the impact of GAS on mental health and suicidality was not evaluated in this cohort.

Discussion

We determined in this study that individuals with GD had more childhood trauma, particularly in the subcategories of emotional and sexual abuse, when compared to cisgender males and females. When we compared the groups of GD individuals, we observed

Table 2. Social Adaptation Self-Evaluation Scale, Childhood Trauma Questionnaire, and Multidimensional Scale of Perceived Social Support Scores of Participants

	GD Group (n = 100)	Cisgender Group (n = 76)	P
	Median (IQR)		
Total SASS	45 (39.25-49.25)	48 (40-54.25)	.193
Total CTQ	36 (28.25-49)	31.50 (27-39.75)	.030*
Emotional abuse	7 (5-11)	5 (5-8)	.006*
Emotional neglect	10 (7-14)	9.5 (6-12)	.235
Physical abuse	5 (5-6)	5 (5-5)	.054
Physical neglect	6 (5-8)	5 (5-9)	.398
Sexual abuse	5 (5-7.75)	5 (5-5)	.001*
Minimization	1 (0-2)	0 (0-2)	.372
Total MSPSS	65 (54-77.50)	68.5 (55-83.75)	.145
Family support	21 (12-28)	26 (20-28)	.008*
Friend support	25 (20-28)	26 (19.25-28)	.277
Special person support	26 (14-28)	23.5 (10.25-28)	.202

*P < .05, considered statistically significant values were shown in bold. CTQ, Childhood trauma questionnaire; GD, Gender dysphoria; IQR, Interquartile range; MSPSS, Multidimensional scale of perceived social support; SASS, Social Adaptation Self-evaluation Scale.

that childhood trauma, including emotional and sexual abuse, was more frequent in AMAB individuals than AFAB individuals. AMAB individuals had less family support and fewer regular follow-up sessions when compared to the other groups. AMAB individuals had the highest suicidality among the groups. Moreover, AMAB individuals, particularly those who failed to attend follow-up sessions, had the highest suicidality overall.

We observed that childhood trauma was more common in individuals with GD. This finding suggests that early adverse experiences may contribute to the development of GD. It also highlights

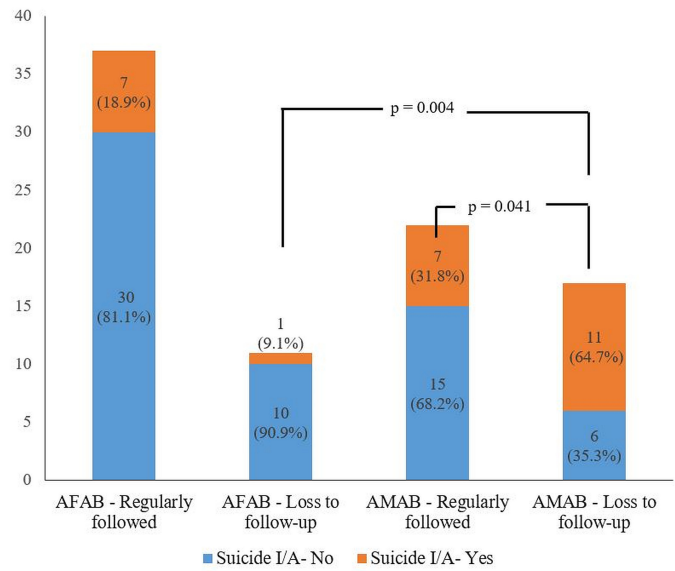


Figure 1. Suicidality in gender dysphoria group according to follow-up patterns. AFAB = Gender assigned female at birth; AMAB = Gender assigned male at birth; Follow-up Patterns = Initial admissions were not included in the regular follow-up classification; I/A = Ideation/Attempt; Suicidality = Suicide ideation or attempt.

the importance of addressing childhood trauma in the management and support of affected individuals. Similarly, Biedermann et al found that childhood trauma is common among individuals with GD.¹⁴ However, no difference was observed between AMAB and AFAB individuals in this study. Unlike Biedermann’s study, we found that childhood trauma was more common in AMAB individuals in our study. In addition, we found that sexual abuse among individuals with GD was one of the most frequently reported traumas, in accordance with the literature.^{15,16}

In this study, we found that family support was lower in individuals with GD than in the cisgender group. This finding may reflect cultural and societal factors specific to the region, where traditional views on gender roles and norms can lead to reduced familial support for individuals with GD compared to their cisgender counterparts. In the GD group, AMAB individuals had less

Table 3. Childhood Trauma Questionnaire Scores in Four Groups

Inventories	AFAB-GD (n = 50)	AMAB-GD (n = 50)	Cis-males (n = 28)	Cis-Females (n = 48)	P
	Median (IQR)				
Total CTQ	33.5 (27-44)	39 (29-52.25)	31 (26-39.75)	31.5 (29-39.75)	.030^a
Emotional abuse	7 (5-9)	8 (5-12)	5 (5-6)	6 (5-8.75)	.002^b
Emotional neglect	9.5 (6-14.25)	10.5 (7-14.50)	8 (6-12)	10 (7-12)	.448
Physical abuse	5 (5-5)	5 (5-6)	5 (5-5)	5 (5-5)	.089
Physical neglect	6 (5-8)	6 (5-9)	5 (5-8.25)	6 (5-9)	.535
Sexual abuse	5 (5-5)	6 (5-10.25)	5 (5-5)	5 (5-5)	.001^c
Minimization	1 (0-2)	0 (0-2)	1 (0-2)	0 (0-1.75)	.138

^aAMAB-GD versus Cis-males, P = .030; AMAB-GD versus AFAB-GD, P = .040. ^bAMAB-GD versus Cis-males, P = .002; AMAB-GD versus AFAB-GD, P = .030. ^cAMAB-GD versus Cis-males, P < .001; AMAB-GD versus Cis-females, P < .001, AMAB-GD versus AFAB-GD, P = .012. P < .05, considered statistically significant values were shown in bold. AFAB, Gender assigned female at birth; assigned male at birth; CTQ, Childhood trauma questionnaire; GD, Gender dysphoria; IQR, Interquartile range.

Table 4. Comparison of Gender Identity According to Follow-up Patterns

Variables	Loss to Follow-up	Regularly Followed	P
	n (%)		
Gender identity			
AMAB-GD	17 (43.6)	22 (56.4)	.04*
AFAB-GD	11 (22.9)	37 (77.1)	

*P < .05, considered statistically significant values were shown bold. AFAB, Gender assigned female at birth; AMAB, Gender assigned male at birth; GD, Gender dysphoria.

family support than AFAB individuals. We observed that while AMAB individuals lived alone more frequently, AFAB individuals lived more frequently with their family members. Similarly, Durcan et al and Turan et al showed that AMAB individuals lived alone more often, and that AFAB individuals lived more often with their families in the Turkish population.^{6,17} These ratios may suggest that families view AMAB individuals more negatively than AFAB individuals in the Turkish population. Stewart et al reported that the social environment, particularly family attitudes and behaviors, significantly impacted the mental health of these individuals.¹⁸ For this reason, increasing family support may help these individuals protect their mental health.

We found in this study that 10% of the AMAB individuals were engaged in sex work. The rate of civil servants was also lowest among AMAB individuals. These results suggest that AMAB individuals may be discriminated against in public office. In a study by Lombardi et al, it was shown that individuals with GD suffered economic difficulties because they were excluded from areas of work.¹⁹ Xavier et al showed that some AMAB individuals engaged in sex work for reasons such as discrimination and financial difficulty.²⁰ Consequently, economic factors may contribute to the failure of individuals with GD to attend follow-up sessions.

In the present study, substance and alcohol use among individuals with GD was higher compared to cisgender individuals. Within the GD groups, this rate was found to be higher among AMAB individuals. In a previous study, most participants admitted to substance and alcohol abuse and stated that they used these drugs to cope with problems such as depression, low self-esteem, peer pressure, and the pressure towards sex work.²⁰ Testa et al proposed that there may be a relationship between exposure to sexual violence in AMAB individuals and alcohol and substance abuse.²¹ All these results may support the high alcohol and substance addiction we have found in AMAB individuals. Consequently, routine alcohol and substance use should be questioned in individuals with GD during regular medical follow-ups.

We observed in this study that suicidality was higher in individuals with GD than in cisgender individuals. Clements-Nolle et al and Nuttbrock et al similarly found a history of suicide ideation or attempts in individuals with GD as high as 30% or more.^{22,23} In addition, suicidality was found to be higher in AMAB individuals than in AFAB individuals in our study. In the literature, there are studies showing that low social support is associated with higher suicidal behavior in individuals with GD.²⁴⁻²⁶ Suicidality may have been found to be high in AMAB individuals due to their low level of social support. Therefore, addressing social support systems and developing targeted interventions for AMAB individuals with GD may be crucial in reducing their risk of suicidality.

In this study, AMAB individuals who were lost to follow-up showed the highest levels of suicidality. While regular follow-up may play a role in managing suicidality, it is clear that addressing suicidal tendencies in individuals with GD requires a more comprehensive approach. This includes not only consistent monitoring but also the effective treatment of common psychiatric disorders such as depression, which are prevalent in this population and significantly contribute to suicidality. Additionally, providing opportunities for individuals to engage in supportive conversations with medical professionals can help mitigate stress and loneliness. Therefore, a multifaceted strategy that integrates mental health support, social engagement, and targeted interventions is essential for achieving a significant reduction in suicidality among individuals with GD.

We observed that loss to follow-up was more common in the AMAB group than in the AFAB group. In the literature, Durcan et al found that AFAB individuals were more likely to follow up than AMAB individuals in their study.⁶ We also found that while most of the AMAB individuals started hormone use without physician supervision, the majority of AFAB individuals began hormone use under physician supervision. Similarly, Gomez-Gil et al showed a similar difference between the start of hormone use among the sexes in their study.²⁷ This situation may reflect the reservations of these individuals about receiving treatment in public hospitals due to discomfort with their assigned gender.

This study has several strengths. Firstly, it highlights that individuals with GD experience more childhood trauma compared to cisgender males and females, emphasizing the need for early psychological intervention. Secondly, the research provides valuable insights into the higher prevalence of childhood trauma in AMAB individuals compared to AFAB individuals, contributing to the understanding of gender-specific trauma experiences. Furthermore, the study reveals that AMAB individuals attend fewer regular follow-up sessions, underscoring the need for targeted strategies to improve retention in care. Additionally, it identifies a critical area of concern: AMAB individuals who are lost to follow-up exhibit a high suicidal tendency, highlighting the importance of consistent monitoring and support for this vulnerable group.

This study has several limitations. First, the cross-sectional nature of our study limits the establishment of a causal relationship. Second, the lack of clinically structured interviews is one of the limitations of our study. Finally, the results were a reflection of a single tertiary center. This may not be representative of all individuals diagnosed with GD in society. Therefore, further research is needed on this subject.

In conclusion, our study demonstrated that the rate of post-treatment follow-up failure was highest among AMAB individuals. Factors such as childhood trauma—particularly emotional and sexual abuse—and low family support might contribute to the lack of adherence to follow-up sessions and treatment compliance. Additionally, we observed higher levels of suicidality among individuals with GD, with the highest rates observed in those who failed to attend follow-up sessions. Therefore, it is crucial to ensure more regular follow-up for all individuals with GD.

Availability of Data and Materials: The data that support the findings of this study are available on request from the corresponding author.

Ethics Committee Approval: The study was approved by the local ethics committee of Istanbul University-Cerrahpaşa, Cerrahpaşa Faculty of Medicine (Approval no: 83088843-604.01.01-95772, Date: July 24, 2020). All procedures performed in studies involving human participants were in

accordance with the ethical standards of the institutional and/or national research committee and with the Declaration of Helsinki as revised in 2013 and its later amendments or comparable ethical standards.

Informed Consent: Informed consent was obtained from all participants included in the study.

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