



Journal of Sexual Health Psychology

ISSN. (Online). Journal homepage: <https://www.journalshp.com>

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To link to this article: <http://dx.doi.org/10.52547/JSHP.2202.1007>



Published online: 13 May 2022.



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Discrimination and psychopathology in gender dysphoria: a hormone therapy

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KEYWORDS

Psychopathology;
Gender
dysphoria;
Discrimination;
Hormone
therapy

Submitted
2022.02.22

Accepted
2022.05.13



Abstract

Purpose: One of the strategies for treating gender dysphoria is cross-sex hormone therapy (CHT). Our study aimed to explore the differences in the psychopathology of people with gender dysphoria who received the hormone with those who did not this treatment. We also wanted to explore discrimination and rejection among people with gender dysphoria.

Methods: We administered a demographic questionnaire and a structured clinical interview for DSM Axis I disorders (SCID_I) to all participants. Our study sample consisted of 41 people with gender dysphoria (20 MtF and 21 FtM), of whom 21 received Cross-sex hormone therapy (CHT) and 20 did not.

Results: Results indicated that they were on CHT had lower psychological problems than those who did not receive hormone therapy. CHT was influenced by gender dysphoria's psychological health. On the other hand, gender dysphoria that doesn't receive CHT, had further depression, anxiety, obsession-compulsion, and in general Axis-I disorders. We also found that male-to-female people with gender dysphoria were more likely to suffer from discrimination and rejection.

Conclusions: We concluded that CHT could affect the mental health of people with gender dysphoria. Our knowledge of the role of discrimination, ridicule and rejection on the psychological pathology of people with gender dysphoria can help specialists to find the best treatment for these people.

Introduction

The term gender dysphoria was first used in the DSM-5 to refer to those people (Sadock & Ruiz, 2015) who have a distinguished mismatch between their experienced or expressed gender and their assigned gender (or natal gender) (American Psychiatric Association, 2013). Over the past two decades, much research has been done on comorbid disorders of these people (de Vries et al., 2011; Gijs et al., 2014; Havar et al., 2015; Hepp et al., 2005; Ibrahim et al., 2016;

Perrotta, 2021; Pusceddu et al., 2016; Shirdel-Havar et al., 2019), for example, depression and anxiety disorders, which are major psychiatric disorders in these people (Dhejne et al., 2016). As one study found, 38% of people with gender dysphoria had Axis 1 disorders, and depression and anxiety disorders were high in these people. In addition, about 70% of people with gender dysphoria suffer from current and lifelong Axis 1 disorders (Heylens et al., 2014). As we know, hormone therapy and surgery are used to treat this disorder (Sadock & Ruiz, 2015). People with

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gender dysphoria who receive these treatments have a higher quality of life than those who do not (Newfield et al., 2006). In other words, hormone therapy is associated with higher quality of life and, in contrast, depression is associated with lower quality of life (Gorin-Lazard et al., 2012). In addition, people with gender dysphoria who have undergone hormone therapy have reported lower perceived stress (Colizzi et al., 2013). A meta-analysis found that after sex reassignment, the psychological symptoms of these people improved (78%) and they had a better quality of life (80%) (Murad et al., 2010).

However, studies have reported different results for hormonal therapy. For example, in a study using SCL-90, it was found that the scores of people with gender dysphoria were not significantly different based on gender and hormone. In other words, there was no significant difference between the SCL-90 test scores of people with gender dysphoria based on gender and hormone therapy (Fisher et al., 2014). One study found that 61 percent of patients who did not receive hormone therapy showed symptoms of anxiety, while 33 percent of those who received hormone therapy had symptoms of anxiety. In addition, the rates of depression in people with gender dysphoria who did not receive hormone therapy compared to those who received this treatment were 31% and 8%, respectively (Gómez-Gil et al., 2012). In addition, people with gender dysphoria who did not receive hormone therapy showed higher levels of social anxiety, depression, and anxiety than those who received hormone therapy. Notably, people with gender dysphoria undergoing hormone therapy, both those who had received surgical treatment and those who had undergone surgery for at least one time, had normal mean scores for social anxiety, depression, and anxiety. In general, people with gender dysphoria undergoing hormone therapy had fewer psychological and emotional problems (Gómez-Gil et al., 2012).

One study found that female-to-male transgender people had less depression, anxiety, stress and more social support and higher quality of life after hormone therapy. In other words, social support increases the quality of life of female to male transgender people (Colton Meier et al., 2011). In fact, social and family support are protective factors against emotional distress

(Gómez-Gil et al., 2012). As participants have faced a lack of family and community social support, their psychological problems can be attributed to the lack of support from family and community.

Hormone therapy, even without surgery, affects body uneasiness, thus, it increases body satisfaction (Fisher et al., 2014). In addition, research has shown that hormone therapy improves psychological and physiological function (Unger, 2016). As a review study showed, with hormone therapy, psychological function and quality of life of people with gender dysphoria can be improved (Smith et al., 2014). Of course, it can be due to the fact that the satisfaction of these people from their body image after hormone therapy increases their life satisfaction and reduces depression. In fact, after hormone therapy, people with gender dysphoria have less anxiety about body image, while they had more anxiety before treatment (Corda et al., 2016).

As far as we know, this is the first study to investigate the role of hormone therapy on the psychopathology of people with gender dysphoria in Iran. We want to examine the role of hormones in the pathology of people with gender dysphoria and find out whether there is a difference between psychological disorders of people who have received hormones and those who have not. In addition, we try to investigate discrimination, ridicule, and rejection of people with gender dysphoria.

Method

Our sample consisted of 41 people with gender dysphoria, of which 20 (58.2%) were male-to-female, and 21 (41.8%) were female to male. In addition, 20 of them had not received any cross-sex hormone therapy (CHT), and 21 of them had received cross-sex hormone therapy (CHT) for one year. Some of our participants were referred to the Counseling Center of Expertise on Sexual Disorders of Pooyan in Iran, and some of them were invited to participate in our study (From May 2017 to August 2017). A structured clinical interview based on DSM-5 was administered to the participants by trained psychiatrists and psychologists. Participants were divided into two groups, male-to-female, and female-to-male. In

Table 1. Demographic factors of the sample (N= 41)

variable	MtF N= 20	FtM N= 21	Test-info	
Hormone				
Hormone (%)	10(50)	11(47.6)	ns	
No Hormone (%)	10(50)	10(52.4)		
Age				
Total <i>M (SD)</i>	26.80(5.872)	27.48(7.23)	t= -.894, p=.375(ns)	
Hormone <i>M (SD)</i>	29.50 (6.98)	30.45 (8.16)	t=-.707, p=.487(ns)	
No Hormone <i>M (SD)</i>	24.10 (2.80)	24.20 (4.41)	t=-.198, p=.826(ns)	
Age onset				
Total <i>M (SD)</i>	10.30(3.16)	10.10(3.17)		
Hormone <i>M (SD)</i>	11.50(2.71)	8.91(2.91)		
No hormone <i>M (SD)</i>	9.10(3.24)	11.40(3.06)		
Marital status				
Single (%)	18(90)	19(90.5)		
Married (%)	2(10)	1(4.8)		
Divorce	-	1(4.8)		
Position life				
Only	3(15)	3(14.3)		
Family	11(55)	17(81)		
Friends	1(5)	-		
Partner	3(15)	-		
Wife/Husband	2(10)	1(4.8)		
Ridiculous				
Yes	14(70)	6(28.6)	$\chi^2 (1) = 7.037$	p = .008
No	6(30)	15(71.4)		
Rejection				
Yes	16(80)	10(47.6)	$\chi^2 (1) = 4.630$	p = .031
No	4(20)	11(52.4)		
Rejection family				
Yes	11(55)	7(33.3)	ns	
No	9(45)	14(66.7)		
Rejection society				
Yes	5(25)	4(19)	ns	
No	15(75)	17(81)		
Discrimination				
Yes	15(75)	9(42.9)	$\chi^2 (1) = 4.361$	p = .037
No	5(25)	12(57.1)		
Communication				
Yes	11(55)	11(52.4)	ns	
No	9(45)	10(47.6)		
Suicide thought				
Yes	9(45)	7(33.3)	ns	
No	11(55)	14(66.7)		
Suicide attempt				
Yes	2(10)	2(9.5)	ns	
No	18(90)	19(90.5)		
Sexual abuse				
Yes	7(35)	1(4.8)	$\chi^2 (1) = 5.964$	p = .015
No	13(65)	20(95.2)		
Education				
Elementary (%)	14 (43.8)	5 (21.7)		
High school (%)	7 (21.9)	9 (39.1)		
Bachelor (%)	10 (31.3)	9 (39.1)		
Master (%)	1 (3.1)	-		

addition, participants were divided into two groups: those who have received hormones (21 participants (51.2%) and those who have not received hormones (20 participants (48.8%)).

Then, a demographic questionnaire and a structured clinical interview based on DSM-5 were administered to the participants. Psychopathology were then compared between

male-to-female and female-to-male groups, and hormone-therapy people and those who did not receive this treatment. All of our participants participated in this study with personal consent.

Measures

Demographic questionnaire

We administered a demographic questionnaire to participants, which included age, a record of suicidal ideation, sexual abuse, discrimination, rejection, ridicule, education, and therapy (cross-sex hormone therapy). To assess suicidal thoughts, we used the question, "Have you ever had suicidal thoughts (Yes/No)?" To assess discrimination in our participants, we used the question: "Have you ever been discriminated (Yes/No)?" We also used the following question to measure the ridicule of our sample: "Have you ever been ridiculed (Yes/No)?" Rejection was assessed by the question: Have you ever been rejected (by family, friends, and the community)?

Structured Clinical Interview for DSM-5 – Clinician Version (SCID-5-CV)

SCID is a structured clinical interview for Axis I disorders (First et al., 1997; First et al., 2016). This questionnaire is administered by trained and experienced psychiatrists and psychologists for Axis I disorders. This questionnaire has two versions, one clinical version, and the other research version, we used the former (Osório et al., 2019).

Statistical analysis

We used Chi-square tests to distinguish between the two groups in terms of discrimination, rejection, ridicule, sexual abuse, and suicidal ideation. This test was also used for Axis I disorders in the two groups. Using the Chi-square test, we also analyzed Axis I disorders between the two groups of those who received cross-sex hormone therapy and those who did not. In addition, a t-test was used for exploring the age difference between the two groups.

Table 2. Axis I disorders in the Gender Dysphoria based on gender

Variable	MtF N=20		FtM N=21		Test info	
	n	%	n	%	χ^2 (1)	p
Mood disorders	8	40	6	28.6		ns
Bipolar-I	1	5	1	4.8		
Bipolar-II	0	0	2	9.5		
Dysthymia	0	0	1	4.8		
Major depression	7	35	2	9.5		
Anxiety disorders	9	45	8	38.1		ns
Panic w Agoraphobia	1	5	1	4.8		
GAD	3	15	5	23.8		
Social anxiety	5	25	2	9.5		
Specific phobia	6	30	5	23.8		
Blood	5	25	2	9.5		
Acrophobia	0	0	1	4.8		
Animal	1	5	2	9.5		
PTSD	3	15	4	19		ns
OCD	7	35	6	28.6		ns
OCD	6	30	3	14.3		
Body dysmorphic	3	15	4	19		
Somatic symptom	5	25	2	9.5		ns
Eating disorders	4	20	5	23.8		ns
Bulimia	2	10	2	9.5		
Anorexia nervosa	2	10	3	14.3		
One or more Axis-I disorders	15	75	14	66.7		ns

participants (51.2%) and those who have not received hormones (20 participants (48.8%)). Then, a demographic questionnaire and a structured clinical interview based on DSM-5 were administered to the participants. Psychopathology were then compared between male-to-female and female-to-male groups, and hormone-therapy people and those who did not receive this treatment. All of our participants participated in this study with personal consent.

Results

The results of demographic findings indicated that there was no significant difference between the two groups of female transgender people and male to female transgender people in terms of age (Table 1). In addition, there was no age difference between participants who received the hormone and those who did not. Male-to-female transgender people were more ridiculed ($p = .008$) and rejected ($p = .031$) than female-to-male transgender people. However, there was no difference between the two groups in terms of rejection by family and society. In addition, male to female transgender people were more discriminated compared to female to male transgender people ($p = 0.037$). Although the idea of suicide was high in male to female transgender people (45%) and female to male (33.3%), there was no significant difference between the two groups. In addition, the results of our study showed that there was a significant difference between male-to-female and female-to-male groups in terms of gender abuse ($p = .015$). In other words, male-to-female transgender people were more likely to be sexually abused.

Analysis of the frequency of Axis 1 psychiatric disorders based on gender showed that male-to-female and female-to-male gender dysphoria people (75% and 66.7%, respectively) suffered from one or more Axis 1 disorders, but there was no difference in terms of gender (Table 2). We also observed that although depressive, anxiety and obsessive-compulsive disorders were high in people with gender dysphoria, there was no gender difference between the two groups.

Analysis of the results using the Chi-square test showed that mood disorders ($p = .006$), anxiety ($p = .019$), and obsessive-compulsive

disorder ($p = .014$) among people with gender dysphoria who received the hormone was lower than those who did not receive this treatment (Table 3). In other words, participants who received the hormone had fewer mood, anxiety, and obsessive-compulsive disorders. In addition, there was a significant difference in Axis I disorders between those who received the hormone and those who did not receive the treatment ($p = .008$). In other words, transgender people undergoing hormone therapy had fewer psychological problems than transgender people without hormone therapy. In contrast, PTSD disorders, somatic symptoms and eating disorders were not different in the groups. Generally, people who received hormone therapy had fewer psychological disorders than those who did not receive the hormone.

Discussion

Our results showed that male-to-female people with gender dysphoria were more likely to suffer from discrimination, rejection, and ridicule. When we interviewed these people, we found out that many of them encountered more problems like these when they first revealed their disorders. We know that in our society, these people have received less attention and most often have been ridiculed, discriminated and rejected (Javaheri, 2010). Although Iranian law has accepted gender reassignment surgery, people with gender dysphoria face limitations in family and society both during the treatment process and even after it (Javaheri & Hosseinzadeh, 2012). Thus, it can be said that the rejection of these people by society and not knowing these people by society, as well as transphobia and homophobia, expose them to ridicule, rejection and discrimination. Our results were consistent with a study that showed that 78% of Iranian people with gender dysphoria were discriminated and 56% of them were insulted (Javaheri & Kouchakian, 2006). However, in a foreign study, the level of social support by family, peers, and discrimination was reported to be 78.3, 64.1, and 62.3 percent, respectively (Hasan et al., 2017). In Iran, male-to-female people with gender dysphoria receive less attention and are more likely to suffer from discrimination and harassment from society. In contrast, female-to-male people with gender

dysphoria in Iran are less discriminated and harassed compared to the other group. Moreover, male-to-female people with gender dysphoria lived less with their families than the female-to-male group, which means more discrimination in

practice. Consistent with our results, the results of a study showed that 28% of people with gender dysphoria have run away from home at least once (Javaheri & Kouchakian, 2006).

Table 3. Axis I disorders in the gender dysphoria based on hormone therapy

Variable	Without Hormone (N=20)		With Hormone (N=21)		Test info			
	n	%	n	%	$\chi^2(1)$	p		
Mood disorders	11	55	3	14.3	7.552	.006*		
Bipolar-I	1	5	1	4.8				
Bipolar-II	2	10	0	0				
Dysthymia	1	5	0	0				
Major depression	7	35	2	9.5				
Anxiety disorders	14	60	5	23.8	5.528	.019*		
Panic with Agoraphobia	2	10	0	0				
GAD	5	25	2	9.5				
Social anxiety	5	25	2	9.5				
Specific phobia	8	40	3	14.3				
Blood	5	25	2	9.5				
Acrophobia	1	5	0	0				
Animal	2	10	1	4.8				
PTSD	4	20	3	14.3			6.034	ns
OCD Disorders	10	50	3	14.3				
OCD	6	30	3	14.3	7.003	.008*		
Body dysmorphic	5	25	2	9.5				
Somatic symptom	4	20	3	14.3				
Eating disorders	6	30	3	14.3				
Bulimia	2	10	2	9.5				
Anorexia nervosa	4	20	1	4.8				
One or more Axis-I Disorders	18	90	11	52.4				

* $P < 0.05$

One of our interesting results was that male-to-female people with gender dysphoria were more sexually abused than female-to-male ones. This difference only exists between the two groups of people with gender dysphoria, and we need to compare this with a normal group or a clinical group. However, to explain this, we can say that this happens in the male-to-female group because of the greater freedom of boys in Iranian culture than girls, and the lack of awareness of families about the abuse of male children. Lack of parental care and protection of boys compared to girls are some of the factors that lead to sexual abuse.

We also found that depressive, anxiety, and obsessive-compulsive disorder were less common in people with gender dysphoria who received the hormone. Cross-sex hormone

therapy (CHT) reduced psychological problems in people with gender dysphoria. However, cross-sex hormone therapy (CHT) has been shown to reduce only some of the disorders (depression, anxiety, and obsessive-compulsive disorder). People with gender dysphoria who receive hormone therapy have a higher quality of life than those who do not (Newfield et al., 2006). As we know, hormone therapy is associated with higher quality of life and, in contrast, depression is associated with lower quality of life (Gorin-Lazard et al., 2012). In addition, people who receive hormone therapy have lower perceived stress (Colizzi et al., 2013). Since after hormone therapy, body image distress decreases in people with gender dysphoria, and this decreases the incompatibility between biological gender and sexual identity (Corda et al., 2016). Thus, we can

assume that, when people with gender dysphoria achieve their desired sexual identity, their distress is likely to decrease. On the other hand, we know that social and family support are protective factors against emotional distress (Gómez-Gil et al., 2012). As shown in a study, social support from family, especially from friends, increases and improves life quality of people with gender dysphoria (Başar et al., 2016), and given that our participants received less social support from their families and the community, so we can attribute their psychological problems to the lack of support from the family and the community.

Although much research has been done on the role of cross-sex hormone therapy (CHT) for people with gender dysphoria (Costa & Colizzi, 2016; Fabris et al., 2015; White Hughto & Reisner, 2016), we think variables such as social support from family, community, and friends can be considered as protective factors against psychological trauma of these people. Therefore, we hypothesize that the type of support can decrease emotional problems such as depression, stress, and anxiety in people with gender dysphoria. In addition, discrimination and ridicule can lead to isolation and loneliness, and this can result in mental health problems in these people.

Limitations and recommendations

This research, like any other research, has strengths and limitations. One of the strengths of our study is exploring the role of hormones in gender dysphoria for the first time in Iran. One of the limitations of our study was that we did not consider the dose of hormone in gender dysphoria people as a variable in the study, and future research is suggested to consider this. Another limitation of our study was that participants who received the hormone were not psychologically evaluated before receiving hormone therapy so we know whether hormone therapy had improved them or other variables have played a role. In other words, maybe this group had less pathology in life from the very beginning. Therefore, it is suggested that in the future, gender dysphoria people should be examined in a longitudinal study before starting hormone therapy and after completing all stages of hormone therapy. The third limitation of our study was the lack of a

group that underwent surgery as a comparison group. Finally, another limitation of our study was the lack of a clinical control group for comparison with gender dysphoria people, therefore, having a clinical group as a control group for comparison with gender dysphoria is suggested for future research.

Declaration of conflict of interest

The authors declare that they have no conflict of interest.

Acknowledgements

We appreciate all the experts who work in the field of transgender and gender dysphoria all over the world. We also thank the gender dysphoria people who participated in this study.

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