

# Sexual and Romantic Experiences of Transgender Youth Before Gender-Affirmative Treatment

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abstract

**OBJECTIVE:** In various Western countries early medical gender-affirmative treatment has become increasingly available for transgender adolescents. Research conducted before the start of medical gender-affirming treatment has focused on psychological and social functioning, and knowledge about the sexual health of this specific young group is lacking.

**METHODS:** Gender identity clinics referred 137 adolescents: 60 transgirls (birth-assigned boys, mean age 14.11 years, SD 2.21) and 77 transboys (birth assigned girls, mean age 15.14 years, SD 2.09;  $P = .05$ ). A questionnaire on sexual experiences (kissing, petting while undressed, sexual intercourse), romantic experiences (falling in love, romantic relationships), sexual orientation, negative sexual experiences, and sexual satisfaction was administered. Experiences of the transgender adolescents were compared with data for same-aged youth of a Dutch general population study ( $N = 8520$ ).

**RESULTS:** Of the transgender adolescents, 77% had fallen in love, 50% had had a romantic relationship, 26% had experienced petting while undressed, and 5% had had sexual intercourse. Transboys had more sexual experience than transgirls. In comparison with the general population, transgender adolescents were both sexually and romantically less experienced.

**CONCLUSIONS:** Despite challenges, transgender adolescent are sexually active, although to a lesser extent than their peers from the general population.

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**WHAT'S KNOWN ON THIS SUBJECT:** Specialized transgender care clinics are confronted with an increase in the number of referred adolescents. Although it is known that they show psychological and social vulnerabilities, sexuality is an important area of functioning on which little knowledge exists.

**WHAT THIS STUDY ADDS:** Compared with their same-age peers, transgender adolescents have less sexual and romantic experience before medical gender-affirming treatment is initiated. Sexuality is challenging for them, although many have experienced falling in love and having a romantic relationship.

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In recent years increasing numbers of transgender adolescents are being referred to specialized gender identity clinics.<sup>1,2</sup> Adolescents with gender dysphoria (GD)<sup>3</sup> experience a persistent incongruence between their experienced gender and their birth-assigned gender that is accompanied by distress. Clinical guidelines advise, after careful assessment, gender-affirming medical treatment including puberty suppression, cross-sex hormones, and gender-affirmative surgery.<sup>4,5</sup> Currently, a growing body of studies shows vulnerabilities in psychological and social functioning of medically untreated transgender adolescents.<sup>6,7</sup> Despite the fact that sexual development is important, for GD adolescents, studies have not focused on their sexual functioning.

There are several reasons for studying sexuality in transgender youth. First, gender-affirmative treatment, including the administration of sex hormones and in most cases genital surgery, is likely to influence sexual function and activities. The effect of these interventions can be measured only when baseline data exist. The limited number of pretreatment studies on sexual functioning in adults showed high rates of dissatisfaction with sexual life<sup>8</sup> and few stable relationships.<sup>9</sup> Pretreatment studies showed that 46%<sup>10</sup> to 80%<sup>11</sup> of transgender adults were sexually active. After medical gender-affirmative treatment with hormones or surgery, both positive effects (increased sexual arousal, desire, and masturbation) and negative effects (decreased sexual functioning) have been described in transgender adults.<sup>10,12-21</sup> In 2 follow-up studies on young adults (19-27 years) who started gender-affirmative treatment during adolescence (age range for hormones was 15-19 years, surgery was 19-23

years), ~70% of the sexually active respondents reported satisfaction with their sex life after treatment, but masturbation was not very frequent.<sup>22,23</sup> A second reason why transgender adolescents' sexuality should be studied is because of the inherent discomfort with their physical sex characteristics.<sup>23</sup> Specifically, aversion to genital organs can influence on solo and partner-related sexual activities<sup>24</sup> and the steadiness of romantic relationships.<sup>25</sup>

Third, in a high school environment forming a romantic or sexual relationship may present extra challenges due to the risk of exclusion by peers<sup>26</sup> and fewer opportunities to find a romantic partner.<sup>27,28</sup>

Fourth, in clinical practice many transgender adolescents and parents have questions about sexuality and possible treatment effects that are now left unanswered.

In conclusion, knowledge about sexuality in people with GD is scarce, especially in adolescents and before medical intervention has begun.<sup>8,11,29,30</sup> Better understanding may improve health care. The current study addresses pretreatment sexuality, and we aimed to answer the following questions: What are the sexual and romantic relationship experiences of untreated transgender adolescents? Is there a difference between transboys (birth-assigned girls) and transgirls (birth-assigned boys)? What are their sexual experiences in comparison with those of youth from the general population? What is their sexual orientation?

## METHOD

### Participants and Procedure

The initial study sample consisted of 183 transgender adolescents (mean age 14.69 years, SD 2.20) consecutively referred between June 2011 and December 2013 to

the Center of Expertise on Gender Dysphoria at the VU University Medical Center in Amsterdam, Netherlands. Data were collected at the start of the diagnostic process, when various standardized and self-developed psychometric measures are collected (for a description of the protocol, see Coleman et al<sup>4</sup> and de Vries and Cohen-Kettenis<sup>31</sup>). Of the 183 referred adolescents, 137 complete sets of questionnaires were available. Reasons for nonparticipation or missing data were that adolescents dropped out of care ( $N = 10$ ) or failure to complete or return questionnaires ( $N = 36$ ). General characteristics of the participants are presented in Table 1.

As a comparison group for the transgender adolescents, information from a large representative sample of the general Dutch youth was used. These data were derived from a general population study on sexual health in adolescents 12 to 25 years of age ( $N = 8520$ ), performed in 2012.<sup>32</sup> In the current study we included data from only the subset of adolescents between 12 and 17 years of age ( $N = 3820$ ).

To ensure that the transgender sample and general population sample were comparable, we created the same-age groups used in the general population study (12-14 years and 15-17 years). For additional information, a young group (<12 years) was added. Although treatment according to the adolescent protocol starts at 12 years of age,<sup>31</sup> in clinical practice younger people are already assessed in case puberty starts before age 12, but only if there is possible eligibility for puberty suppression and guideline eligibility criteria are fulfilled.

The VU University Medical Center ethics committee approved the study, and all adolescents and their parents gave informed consent to participate in the study.

**TABLE 1** General Characteristics of the Participants

Variable	All Participants (N = 137)	Transgirls (N = 60)	Transboys (N = 77)	df	P
Age at assessment					
Mean (SD)	14.69 (2.2)	14.11 (2.21)	15.14 (2.09)	135	.005
Range	10.94–17.74	11.26–17.64	10.94–17.74		
Parents' marital status, N (%)					
Both parents	75 (55)	33 (56)	42 (55)	134	.27
Other	62 (45)	27 (44)	35 (46)		
Adopted, N (%)					
Yes	2 (2)	0	2 (3)	135	.21
Educational level, N (%)					
Primary school	40 (30)	22 (40)	18 (23)	131	.08
High school basic level	59 (44)	22 (40)	37 (48)		
High school advanced level	34 (26)	12 (21)	22 (29)		
Ethnicity, N (%)					
1 parent immigrant	14 (10)	5 (8)	9 (12)	135	.72
Both parents immigrants	3 (2)	0 (0)	3 (4)		

df, degree of freedom.

## Measures

### Sociodemographic Data

Six demographic measures were assessed: natal sex, age at assessment, parents' marital status, adoption, educational level, and ethnicity (Table 1). For current level of education participants were categorized into 3 groups: primary school, high school basic level (prevocational and secondary vocational students), and high school advanced level (secondary or preuniversity students). Marital status of the parents was classified as either living with both biological parents or other categories (eg, single parent, separated, widowed, reconstituted, living in a group home). Ethnicity was based on maternal and paternal birth place, derived from medical records.

### Sexual Behavior and Sexual Orientation

Psychosexual functioning was assessed via a 13-item questionnaire derived from a questionnaire used in a general population study.<sup>32</sup> The first 7 questions on sexual and romantic relationship experiences had dichotomous answer options ("yes" or "no experience"): falling in love, romantic relationships,

sexual fantasies, French kissing, petting while undressed, and sexual intercourse ("Do you have experience with sexual intercourse, defined as vaginal penetration with a penis?"). Participants who had not engaged in sexual intercourse were asked to specify the reason for their lack of experience by choosing from a list of options including "Being too young," "I want to be in love first," "my parents disapprove," or "body shame because of GD."

The next 5 questions were about negative sexual experiences ("Did you have any negative sexual experience before the age of 12?" or "Did you have any negative sexual experience after the age of 12?"), satisfaction ("Are you satisfied in your sexual relationship?"), nonsatisfaction ("What are reasons for non-satisfaction with your sexual relationship?"), and importance of sexuality ("Is sex important to you?"). For the last question, scales were adjusted so comparison between the transgender group and the general population study was possible.

Where applicable, questions were adapted or answer options were added that are specific to transgender adolescents and not

used in the general population study (eg, involvement of genitals).

For sexual orientation, we examined 5 dimensions of sexual attraction: sexual attraction, sexual fantasies, romantic relationships, sexual contact, and current partner. A 7-point Kinsey scale was used that ranged from "exclusively boys" to "exclusively girls" and converted into 4 main preferences (natal sex, other sex, both, don't know yet). The sixth item asked which term they used for self-defining their sexual orientation ("Do you call yourself homosexual or heterosexual?").

### Data Analyses

Descriptive statistics were used for demographic data. Group differences were calculated via independent *t* tests and  $\chi^2$  tests. One-sided *t* tests were used to compare with the general population study. When expected frequencies were too low, Fisher exact tests were used.

## RESULTS

### Sexual Experiences

Table 2 indicates the sexual experiences of the total sample of transgender adolescents and for the 3 age groups. Some of the significant differences in the total sample did not reach significance in the separate age groups, possibly because the smaller samples resulted in decreased power to detect these differences.

Compared with the 12- to 14-year-old group, the 15- to 17-year-old transgender adolescents reported significantly more sexual experiences with romantic relationships ( $\chi^2[1] = 10.85, P < .001$ ), sexual fantasies ( $\chi^2[1] = 22.48, P < .001$ ), French kissing ( $\chi^2[1] = 32.39, P < .001$ ), and petting while undressed ( $\chi^2[1] = 14.50, P < .001$ ). Of those who had been sexually active, 50% reported avoiding the involvement of their genitals during sexual activity.

**TABLE 2** Gender Differences in Sexual Experiences of 3 Age Groups of Transgirls and Transboys

Sexual Experience	All Ages (N = 138)		Age <12 y (N = 28)		Age 12–14 y (N = 35)		Age 15–17 y (N = 75)		Significance <sup>a</sup>
	N (%)	$\chi^2$ (df=1)	N (%)	P	N (%)	P	N (%)	P	
Falling in love									
Transgirls	45 (75)		13 (77)		12 (67)		20 (80)		
Transboys	59 (77)		7 (70)		12 (71)		40 (83)		
All	104 (77)	0.253	20 (74)	.62	24 (69)	.71	60 (82)	0.1259	.72
Romantic relationship									
Transgirls	28 (47)		7 (41)		7 (39)		14 (56)		
Transboys	40 (54)		1 (11)		4 (25)		35 (71)		
All	68 (51)	0.723	8 (31)	.40	11 (32)	.11	49 (66)	0.747	.18
Sexual fantasies									
Transgirls	39 (65)		6 (55)		9 (50)		24 (96)		
Transboys	59 (81)		5 (56)		9 (60)		45 (92)		
All	98 (74)	4.252	11 (42)	.04	18 (54)	.32	69 (93)	0.330	.50
French kissing									
Transgirls	11 (19)		0 (0)		0 (0)		11 (44)		
Transboys	36 (50)		0 (0)		1 (7)		35 (71)		
All	47 (36)	13.859	0 (0)	<.001	1 (3)	n/a	46 (62)	1.23	.02
Petting while undressed									
Transgirls	10 (17)		0 (0)		2 (11)		8 (32)		
Transboys	24 (33)		0 (0)		0 (0)		24 (49)		
All	34 (26)	4.530	0 (0)	.03	2 (6)	n/a	32 (43)	1.774	.16
Sexual intercourse									
Transgirls	5 (9)		0 (0)		1 (6)		4 (16)		
Transboys	1 (1)		0 (0)		0 (0)		1 (2)		
All	6 (5)	3.8	0 (0)	.89	1 (3)	n/a	5 (7)	0.911	.03

df: degree of freedom; n/a, not applicable.

<sup>a</sup> Significance difference between transgirls and transboys.

### Gender Differences

Gender differences (Table 2) were not observed for falling in love and romantic relationships. However, transboys were more experienced than transgirls in the areas of sexual fantasies, French kissing, and petting while undressed (see Table 2 for specific percentages and test values). Only in sexual intercourse were transgirls more experienced.

### Sexual Orientation

Table 3 shows that the majority of transgender adolescents reported to feel sexually attracted to persons of their natal sex (65%,  $N = 89$ ). Concerning self-defining their sexual orientation, 27% ( $N = 16$ ) of the transgirls and 44% ( $N = 34$ ) of the transboys self-defined their sexual orientation as heterosexual, while 50% ( $N = 30$ ) of the transgirls and 43% ( $N = 33$ ) of the transboys describe themselves as undecided.

### Comparison With General Population

Table 4 shows that in the 12- to 14-year-old group the transgender adolescents had less sexual experience compared with youth in the general Dutch population in all areas that were measured (falling in love, romantic relationships, kissing, petting), with the exception of sexual intercourse. Also, in the group of 15- to 17-year-olds, transgender adolescents had less sexual experience compared with youth in the general population in all respects, including sexual intercourse.

Significantly fewer transgender adolescents value sex as important compared with youth in the general population [24% [ $N = 29$ ] vs 48% [ $N = 3638$ ],  $\chi^2[1] = 12.164$ ,  $P < .001$ ]. Most common reason not to have intercourse was “being too young,” which was reported by both transgender adolescents (56%,  $N = 69$ ) and adolescents from the general population (47%,  $N = 3561$ ). The

**TABLE 3** Dimensions of Sexual Orientation

<i>N</i> = 137	Sexual Attraction, <i>N</i> (%)	Sexual Fantasies, <i>N</i> (%)	Romantic Relationships, <i>N</i> (%)	Sexual Contact, <i>N</i> (%)	Current Partner, <i>N</i> (%)
All participants					
Natal sex	89 (65)	72 (53)	42 (31)	36 (26)	11 (10)
Other sex	13 (10)	7 (5)	24 (18)	10 (7)	1 (1)
Both	9 (7)	13 (10)	8 (6)	7 (5)	0 (0)
Does not know yet	26 (20)	45 (33)	63 (46)	n/a	n/a
None	n/a	n/a	n/a	84 (61)	113 (83)
Transgirls					
Natal sex (b)	37 (62)	26 (43)	15 (25)	10 (17)	1 (2)
Other sex (g)	9 (13)	3 (5)	15 (25)	3 (5)	0 (0)
Both	4 (7)	6 (10)	1 (2)	2 (3)	0 (0)
Does not know yet	11 (18)	25 (42)	29 (48)	n/a	n/a
None	n/a	n/a	n/a	45 (75)	53 (100)
Transboys					
Natal sex (g)	52 (68)	46 (60)	27 (35)	26 (34)	10 (14)
Other sex (b)	5 (7)	4 (5)	9 (12)	7 (9)	1 (1)
Both	5 (7)	7 (9)	7 (9)	5 (7)	0
Does not know yet	15 (20)	20 (26)	34 (44)	n/a	n/a
None	n/a	n/a	n/a	39 (51)	60 (85)

b, boy; g, girl; n/a, not applicable.

**TABLE 4** Sexual Experiences of Transgender Adolescents Versus Dutch General Population by Age Group

Sexual Experience	Age 12–14 y			Age 15–17 y		
	Transgender Adolescents <sup>a</sup> ( <i>N</i> = 35), <i>N</i> (%)	General Population <sup>b</sup> ( <i>N</i> = 1807), <i>N</i> (%)	$\chi^2$ ( <i>df</i> ), <i>P</i>	Transgender Adolescents <sup>a</sup> ( <i>N</i> = 75), <i>N</i> (%)	General Population <sup>b</sup> ( <i>N</i> = 2013), <i>N</i> (%)	$\chi^2$ ( <i>df</i> ), <i>P</i>
Has been in love	24 (69)	1598 (88)	$\chi^2(1) = 12.88, .003$	60 (82)	1861 (92)	$\chi^2(1) = 15.229, .001$
Romantic relationship	11 (32)	1226 (67)	$\chi^2(1) = 2.646, <.001$	49 (66)	1529 (76)	$\chi^2(1) = 4.420, .04$
French kissing	1 (3)	774 (42)	$\chi^2(1) = 22.514, <.001$	46 (62)	1519 (75)	$\chi^2(1) = 8.343, .004$
Petting while undressed	2 (6)	556 (31)	$\chi^2(1) = 1.310, .001$	32 (43)	1388 (69)	$\chi^2(1) = 22.961, <.001$
Sexual intercourse <sup>c</sup>	1 (3)	134 (7)	$\chi^2(1) = 0.487, .49^d$	5 (7)	795 (40)	$\chi^2(1) = 32.967, <.001$

*df*, degree of freedom.

<sup>a</sup> Transgender adolescents at referral, including natal boys (transgirls) and natal girls (transboys).

<sup>b</sup> Data from a large population study on sexual health in Dutch youth performed by Rutgers (de Graaf et al<sup>32</sup>).

<sup>c</sup> Sexual intercourse was defined as penile–vaginal penetration.

<sup>d</sup> Yates  $\chi^2$  was applied for cell counts <5.

transgender adolescents chose “being ashamed of my own body” as the second most reported option (44%, *N* = 54), which was an option especially created for the transgender version of the questionnaire. In the general population “it just hasn’t happened yet” was the second most reported reason (45%, *N* = 3561).

Of the transgender adolescents who were currently in a sexual relationship, 7 (47%) described dissatisfaction with their sexual relationships. Reasons were exclusively related to GD: All reported discomfort with their

current bodies and genitals as the reason for not being able to have a satisfying sex life. In the general population of adolescents with some sexual experience, 15% of the boys and 9% of the girls reported sexual dissatisfaction (no *N* given). Of all transgender adolescents, 2% (*N* = 3), reported negative sexual experiences before the age of 12 years and 6% (*N* = 7) after the age of 12 years, with no significant gender difference. In the general population 17% (no *N* given) of the girls and 5% (no *N* given) of the boys had experienced sexual acts against their will.

## DISCUSSION

This study described the sexuality of transgender adolescents before any gender-affirming medical treatment was provided. Our hypothesis was that sexuality and the forming of romantic relationships would be very difficult for the untreated transgender adolescent. As expected, transgender adolescents were sexually less experienced than same-aged adolescents from the general population. However, contrary to our expectations, transgender adolescents in this study were more sexually active than assumed. The



majority had fallen in love (77%), and about half of the group engaged in romantic relationships (51%). A somewhat smaller group had some experience in petting while undressed (26%), although only a few reported sexual intercourse (5%). It must be realized that, at baseline, body aversion, a key element of GD, is strongly present in all transgender adolescents, especially in those experiencing the unwanted physical changes of puberty.<sup>23</sup> At this time most adolescents in this study did not yet live in their desired gender role, and psychological and social problems often existed.<sup>7,33</sup> Despite these obstacles, the adolescents participating in this study managed to take the first steps of the common adolescent sexual development trajectory (falling in love and engaging in a romantic relationship).<sup>34</sup> This finding is in contrast to the entire skipping of these stages during puberty, as previously described in a small retrospective study of 12 transgender people.<sup>24</sup> Moreover, our study group seemed to reach their first sexual milestones along the usual sexual trajectory pathway, with an increase in both number and intimacy of experiences with progressing age.<sup>34,35</sup> One could expect that, after the gender-affirming interventions, including hormones, surgeries, and changes in social role, additional sexual milestone steps such as kissing, petting, and intercourse will follow.<sup>23</sup> However, longitudinal research is needed to support additional conclusions.

In line with our clinical experience, transboys had more experience than transgirls in some sexual aspects such as sexual fantasies, kissing, and petting while undressed. However, transgirls were more experienced in sexual intercourse. Studies in the general youth population do not show differences between boys and girls in such sexual aspects,

except that boys masturbate more often than girls.<sup>32,36</sup> Also, in one of the few studies on untreated adults with early-onset GD (GD with onset before the start of puberty), no gender differences were found in sexual activity.<sup>11</sup> It has been shown that gender-nonconforming (not conforming to the socially prescribed norms of their assigned gender) boys experience more social rejection and stigmatization than gender-nonconforming girls.<sup>37,38</sup> Therefore, finding a romantic partner could be more challenging for transgirls than for transboys. However, our study found that transgirls were as experienced as transboys in forming romantic relationships.

With regard to sexual orientation, both transboys and transgirls seemed to show a preference for sexual partners of their natal sex. Although data on transgender adolescents are still sparse, the current finding is in line with previous studies on transgender adolescents<sup>17,39</sup> and on adults with early-onset GD.<sup>11</sup>

Despite the fact that transgender adolescents are sexually and romantically active, they are less experienced compared with their nontransgender peers with regard to all sexual and romantic milestones measured, ranging from falling in love to sexual intercourse. Because the development of human sexuality is complex and determined by multiple biopsychosocial factors,<sup>40,41</sup> there are several potential explanations for these differences.

One explanation is related to their changing bodies. In adolescents, sexual awareness generally starts with the bodily changes caused by the secretion of sex hormones at the initiation of puberty. Physical changes prepare the body to transition into a sexually reproductive adult and elicit romantic or sexual responses from their environment.<sup>42</sup> For transgender adolescents these bodily changes mean a transformation into a highly

undesired physical status, which may cause significant distress and body image difficulties.<sup>23</sup> As expected, before any medical intervention was provided, transgender adolescents reported that shame about their bodies due to GD was a main reason not to have sex. Furthermore, of the sexually active transgender adolescents, 50% reported not involving their genitals. A similar percentage was found in a study on adults with early-onset GD.<sup>11</sup> Many adolescents clearly avoid certain sexual behaviors, which is in line with other studies describing the effects of gender identity–body incongruence and genital aversion on the exploration of solo sex, partner sex, and romantic relationships.<sup>24,25</sup> Hardly any transgender adolescents reported experience with sexual intercourse (5%). One of the reasons for this low percentage is that sexual intercourse was defined as vaginal–penile penetration in the questionnaire, which was derived from the questionnaire in the general population study. In our sample, however, the majority of the transboys and transgirls were sexually attracted to a person of their natal sex, with whom this type of sexual activity is not possible before gender-affirming treatment. Sexual activity includes more than intercourse, as exemplified by the larger part of the group who had been involved in petting (which could include genital touching) while being naked (26%).

Another reason for the fewer sexual experiences of the transgender adolescents in the current study compared with their general population peers might be the reported lower number of romantic relationships. For most adolescents sexual activity occurs in the context of an established romantic relationship.<sup>43</sup> The lack of relationships could result from negative experiences such as discrimination or difficulties

finding the right partner, which has been described for sexual and gender minority youth,<sup>28,44</sup> but also from active avoidance of engaging in relationships because of the previously mentioned body image problems. We suspect that treatment will positively alter this pattern, because 2 posttreatment studies showed that 36% to 50% of young transgender adults who started body-changing gender-affirming treatment during adolescence were engaged in stable relationships.<sup>21,22</sup>

The current study had several limitations. First, the sample size was moderate. Nevertheless, there was enough power to show significant differences between transgender youth and peers from the general population. Second, we may have seen a privileged sample of transgender adolescents who were supported by their environment to seek treatment and were functioning well. Third, the self-reports were

completed at home, and therefore underreporting of sexual behaviors out of concern for privacy may have occurred. Fourth, the items we used to assess partner-related sexuality (kissing, petting while undressed, and sexual intercourse) do not fully reflect the scale of options in sexual activities for this specific group. For additional research we suggest using a wider definition of sexual activity that is suitable for gender diverse youth as well.

Finally, we did not correct for psychiatric disorders such as anxiety and depression, which are found more often in transgender adolescents.<sup>33</sup> These disorders may have contributed to the sexual difficulties in our study group, because mood disorders and anxiety are associated with sexual dissatisfaction in the general population.<sup>45</sup> Additional research could focus on this association.

## CONCLUSIONS

Our study found that the majority of referred transgender adolescents between 11 and 17 years of age had experience with falling in love and romantic and sexual relationships but were far less sexually experienced than their peers from the general population. Although sexuality is a key developmental challenge for all adolescents, it seems to be even more so for transgender youth. Clinically, discussing sexuality is therefore highly important. To support appropriate sexual counseling, future research should focus on the sexual trajectories during and after medical gender-affirmative treatments.

## ABBREVIATION

GD: gender dysphoria

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