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Body image and treatment desires at clinical entry in non-binary and genderqueer adults

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ABSTRACT

Background: Gender clinics are experiencing an increase in non-binary and/or genderqueer (NBGQ) individuals applying for gender affirming medical treatment (GAMT). GAMT is a well-established approach in reducing body dissatisfaction in binary transgender (BT) people, but knowledge on GAMT in NBGQ people is limited. Previous research shows that NBGQ individuals report different treatment needs compared to BT individuals. In attempting to address this difference, the current study examines the association between identifying as NBGQ, body dissatisfaction and their underlying motives for GAMT. The main research objectives were to describe the desires and motives for GAMT in NBGQ people and to examine how body dissatisfaction and gender identity relate to one's request for GAMT.

Methods: Online self-report questionnaires were administered on 850 adults referred to a gender identity clinic (*Mdn* age = 23.9 years). Gender identity and desires for GAMT were surveyed at clinical entry. Body satisfaction was assessed with the Body Image Scale (BIS). Multiple linear regressions were used to examine whether BIS scores differed between NBGQ and BT individuals. Chi-square post hoc analyses were used to identify differences in treatment desires and motives between BT and NBGQ individuals. Logistic regressions were conducted to study the association between body image, gender identity and treatment desire.

Results: Compared to BT persons (n = 729), NBGQ persons (n = 121) reported less body dissatisfaction, primarily with the genital area. NBGQ persons also preferred fewer GAMT interventions. If a procedure was not desired, NBGQ individuals more often motivated this on the basis of their gender identity, while BT individuals more often cited the risks of the procedure as their primary reason. The study confirms the need for more NBGQ specialized care, as they have a distinct experience of their gender incongruence, physical distress and express specific needs in GAMT.

KEYWORDS

body image; body satisfaction; gender-affirming medical treatment; gender dysphoria; gender identity; gender incongruence; genderqueer identity; non-binary identity

Introduction

Gender identity clinics around the world report an increasing number of individuals with symptoms of gender incongruence (GI) who seek medical assistance (e.g. Goodman, Adams, Corneil, Kreukels, Motmans, & Coleman, 2019; Wiepjes et al., 2018; Zucker, 2017). GI refers to those individuals whose gender identity, the experience of being or belonging to a gender, is not in line with their birth-assigned sex. When this incongruence results in significant psychological distress or physical discomfort, it is described as gender dysphoria (GD) (American Psychiatric Association [APA], 2013; Beek, Kreukels, Cohen-Kettenis, & Steensma, 2015).

Historically, most individuals with GD reported to have a binary gender identity, referring to the experience of being male or female. Throughout this article, the term binary transgender (BT) is used to refer to individuals with GD who identify with one of the two gender binaries. Over recent years, a rapid rise of non-binary and genderqueer (NBGQ) individuals that seek gender affirming medical treatment (GAMT) is observed in multiple Western countries (Koehler, Eyssel, & Nieder, 2018; Nolan, Kuhner, & Dy, 2019; Pang et al.,

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2020; Twist & de Graaf, 2019). These individuals do not exclusively identify with the binary categorization of gender identity. Examples of such identities are 'genderqueer', 'gender non-conforming', 'gender-fluid' or 'a-gender'. Individuals with these or associated identities are similar in not identifying as solely male or female but empathize with both feminine and masculine traits at the same time, alternate these traits over time or reject traits of any gender (Fiani & Han, 2019; Richards, Bouman, Seal, Barker, Nieder, & T'Sjoen, 2016). In this article, the term NBGQ is used to refer to individuals who identify with a range of gender identity labels that articulate a gender identity not exclusive to one end of the gender binary.

The increasing demand for GAMT seems to reflect that NBGQ people experience gender-related physical distress (de Graaf & Carmichael, 2019; Richards et al., 2016). The concept of body image is often used to identify gender-related physical discomfort in transgender persons. Body image describes a multifaceted construct, which refers to the perceptions, thoughts, and feelings individuals have about their body and bodily experiences (Cash, 2012; van de Grift et al., 2015, 2016). Knowledge on the body image of NBGQ people is limited, although their body image seems to differ from the body image of people with a binary cis- or transgender identity. NBGQ individuals report lower levels of body dissatisfaction on sex-specific characteristics compared to BT people, but experience more body dissatisfaction compared to cisgender people (Jones, Pierre Bouman, Haycraft, & Arcelus, 2019). Furthermore, identifying as NBGQ was reported as a motive for not requesting genital surgery (Beek et al., 2015). Thus, treatment desires of NBGQ individuals appear related to the dissatisfaction with their bodies.

Sparse first investigations into treatment requests of BT and NBGQ individuals confirm substantial differences in the wish for GAMT between NBGQ and BT individuals. Tatum, Catalpa, Bradford, Kovic, and Berg (2020) summarize the transition pathways of NBGQ individuals as "less linear and more flexible" compared to BT people. For example, compared to BT individuals, NBGQ applicants are less likely to request all modalities of transition-related medical health care, opt for fewer medical interventions, and are less likely to undergo treatments for primary sex characteristics, such as genital surgery (Beek et al., 2015; Cheung et al., 2020; Koehler et al., 2018). Furthermore, NBGQ individuals more often engage in non-standardized treatment options in hormonal treatment, by taking hormones in a lower dosage or for a fixed period of time to establish a more gender neutral hormone profile (McTernan, Yokoo, & Tong, 2020; Seal, 2017; van Dijken, Steensma, Wensing-Kruger, Heijer, & Dreijerink, 2022). Concerning chest surgery, NBGQ individuals who are female assigned at birth more often request an 'androgynous chest' which requires the removal of excess chest tissue without complete flattening of the chest, whereas birth-assigned females with a binary male identity more often request a traditionally 'masculine' chest, which includes a complete flattening of the chest (Cocchetti, Ristori, Romani, Maggi, & Fisher, 2020). However, it has not been examined whether these differences in desires for GAMT are directly related to differences in bodily distress among NBGQ and BT individuals, or whether other motives play a role in the consideration for GAMT among NBGQ individuals.

The current study examines the body image of NBGQ identifying individuals in relation to their desires for GAMT. The main research objectives are:

1. To examine whether a NBGQ identity predicts the level of body dissatisfaction with different areas of the body.
2. To describe differences in requested GAMT and reported motives for GAMT between BT and NBGQ identifying individuals at clinical entry.
3. To examine if body dissatisfaction and gender identity predict the likelihood that individuals request a selection of GAMT interventions.

It is hypothesized that both NBGQ and BT individuals report high levels of body dissatisfaction with different regions of the body. However, it is expected that NBGQ individuals experience less dissatisfaction with sex-specific areas of the body compared to BT individuals, and are therefore likely to opt for fewer GAMT interventions.

Finally, it is expected that both body dissatisfaction and gender identity are associated with the type of GAMT that is desired.

Materials and methods

Participants and procedure

Between July 2017 and December 2020, self-report measures on gender identity and body image were obtained from 884 respondents at clinical entry to the Center of Expertise on Gender Dysphoria at the Amsterdam University Medical Center (location VUmc). Thirty-four participants were excluded because they were unsure of their gender identity. No differences were found between the included and excluded sample in terms of age or assigned sex at birth. Participants were included in the analyses on body image when no more than 20% of the data on the body image questionnaire were missing. Informed consent was collected from all participants. Procedures were approved by the ethics committee of the Amsterdam UMC, location VU University. The data were anonymized and treated confidentially.

Measures

All questionnaires were administered digitally at clinical entry, before the start of the assessment procedure in the gender clinic. Data collection was conducted digitally through the evidence-based KLIK Patient-Reported Outcome Measures (PROMs) portal (Haverman, van Oers, van Muilekom, & Grootenhuis, 2019).

Demographic data at baseline

At clinical entry, demographic characteristics (age, sex assigned at birth) and gender identity were obtained from an adapted version of the *Background data interview* as described by Kreukels, Haraldsen, De Cuypere, Richter-Appelt, Gijs, and Cohen-Kettenis (2012). Gender identity was assessed through self-report by asking 'How would you describe your current gender identity?'. Response categories included 'man', 'woman', 'trans man', 'trans woman', 'transgender', 'genderqueer/non-binary', 'other', 'unknown'. Participants were able to provide additional written information about their gender identity in an open-ended question. All responses were reviewed by two of the authors individually and divided into three overarching categories. These categories were 'BT identity', 'NBGQ identity' and 'undefined gender identity'. Assignment of gender identity was based on the following criteria:

1. A BT identity was assigned when individuals reported their identity as 'man', 'woman', 'trans man', 'trans woman', 'transgender' or when a written answer consisted exclusively of binary gender labels.
2. A NBGQ identity was assigned when respondents selected the response option 'genderqueer/non-binary' or when the category 'other' included a written identifier other than a binary gender (such as 'pangender' or 'gender neutral').
3. When the self-reported gender identity was marked as 'unknown' and/or the stated gender identity did not match one of the two other gender identity categories (such as a written answer as 'unsure about my identity'), the response was classified as 'undefined gender identity'.

Body image

Body image was measured using the Dutch translation of the Body Image Scale (BIS), which has been developed specifically for assessing body satisfaction of people with GD (Lindgren & Pauly, 1975). A gender neutral version of the BIS was administered, allowing participants to rate 32 items containing body characteristics of both sexes on a 5-point scale of satisfaction from 1 (most satisfied) to 5 (most dissatisfied). The scale was analyzed based on the procedure of van de Grift et al. (2016), where six body region subscales of the BIS were created:

1. social and hair items
2. head and neck region
3. muscularity and posture
4. hip region
5. chest region
6. genitals.

Mean scores and standard deviations were calculated for the total questionnaire and the 6 subscales, using the original questionnaire's structure, including 30 items that correspond to the assigned sex at birth. Higher scores on the BIS correspond to more body dissatisfaction. The BIS showed high reliability in this sample (Cronbach's alpha 0.91).

Treatment requests and motives

Treatment needs were identified by asking 'What is your primary objective for applying to our center?' Response options consisted of four categories;

1. Social transition to the 'other' gender, with legal gender reassignment and all available GAMT options (including genital surgery).
2. Social transition to the 'other' gender, with legal gender reassignment, and a selection of GAMT (e.g., no vaginoplasty or phalloplasty or other surgeries).
3. Partial social transition to the 'other' gender, without legal gender reassignment and a selection of GAMT.
4. Other objective, namely...

Treatment requests were categorized as 'all available GAMT' when participants selected the first response option. For example, 'all available GAMT' for birth-assigned men included the use of anti-androgens and estrogens, the removal of testes, and a vaginoplasty. Treatment requests of birth-assigned women were categorized as 'all available GAMT' when they expressed a wish for a combination of androgens, removal of ovaries, uterus, and breasts, and a metoidio- or phalloplasty. The second and third response option were categorized as 'a selection of medical treatment'. Treatment requests were categorized as 'selection of available GAMT' when for example gender-affirming hormones but no genital surgery was requested. Participants' written responses to option four were analyzed and categorized as 'all available GAMT' when the answer was consistent with option one, 'a selection of medical treatments' when the answer was consistent with option two or three, or as 'unsure about medical treatment' when individuals stated that they were uncertain what medical treatment was desired or expressed no desire for medical treatment.

If the desire for a selection of available GAMT was reported, individuals were asked: 'In case you prefer a selection of the available GAMT, could you identify the main motive of your treatment request?' Similarly to Beek et al. (2015), five pre-coded categories were used to classify responses:

1. risks or concerns about the outcomes of (genital) surgery
2. no genital dysphoria or genital surgery is unimportant or unnecessary
3. because of ones gender identity
4. age, when one considered oneself as too old for certain medical intervention(s)
5. other reasons/unclear.

Statistical analyses

Differences between BT and NBGQ individuals in age and sex assigned at birth were explored with the use of a Mann–Whitney *U* test or Chi-Square analysis.

Multiple regression analyses were conducted to test if gender identity predicted participants' ratings of body satisfaction with different areas of the body. Age and sex assigned at birth (SAAB) were controlled for as these two factors have been shown to have a relationship with body satisfaction in both cisgender and transgender people (Tiggemann & McCourt, 2013). Preliminary analyses were conducted to ensure the assumptions of normality, linearity, and homoscedasticity were not violated. All regression models included the same predictor variables; gender identity, age, and sex assigned at birth. The BIS total score and BIS subscale scores (Social and Hair, Head and Neck, Muscularity and Posture, Hip, Chest, Genitals) were used as dependent variables in the different analyses.

To determine if the frequency at which treatment desires and motives were reported by NBGQ and BT individuals differed, Chi-Square analyses were performed. Post-hoc analyses were then used to determine which treatment motives differed in frequency of occurrence between the

two groups. By multiplying the adjusted z-scores of each cell in the contingency table, p-values were calculated. These p-values were interpreted using Bonferroni adjusted alpha levels of 0.0005 per test (0.05/10) (Beasley & Schumacker, 1995).

Finally, logistic regression analyses were performed to assess the impact of gender identity and body image on the likelihood that individuals would request a selection of available GAMT. The models all contained the independent variables gender identity, one of the BIS scales, sex assigned at birth, and age. Statistical analyses were performed with IBM SPSS Statistics version 26. A p-value of 0.05 was considered significant.

Results

Sample characteristics

Of the sample of 850 participants, 442 adults were assigned male at birth (AMAB = 52%, median age = 26.03) and 408 adults were assigned female at birth (AFAB = 48%, median age = 22.25). Individuals AFAB were significantly younger than those AMAB ($Z = -7.561$, $p < .001$). See Table 1 for demographic characteristics of the study population.

Gender identity

Based on their responses, participants were categorized with a BT identity (BT) ($n = 729$, 85.8%) or a NBGQ ($n = 121$, 14.2%). BT participants identified as 'man' ($n = 139$, 16.4%), 'woman' ($n = 178$, 20.9%), 'trans man' ($n = 144$, 16.9%), 'trans woman' ($n = 138$, 16.2%), 'transgender' ($n = 120$, 14.1%) and 'other' (e.g. 'boy' or 'girl', $n = 10$, 1.2%). NBGQ participants identified as 'non-binary' or 'genderqueer' ($n = 95$, 11.2%), and 'other' (e.g. 'trans demiboy' or 'pangender', $n = 26$, 3.1%).

There was a significant medium association between current gender identity and sex assigned at birth, ($\chi^2(1) = 34.561$, $p < .001$, Cramer's $V = .202$). The odds of an individual identifying as NBGQ were 3.41 times higher if they were AFAB compared to adults who were AMAB (odds ratio). No significant age differences were observed between BT and NBGQ individuals.

Body image

Table 2 illustrates the level of body dissatisfaction with different areas of the body in BT and NBGQ individuals. BT respondents reported being most dissatisfied with their genital body features. NBGQ individuals reported being most dissatisfied with their chest.

Multiple regression analyses were conducted to test if gender identity predicted participants' body satisfaction. Using the enter method it was found that gender identity, age and sex assigned at birth significantly predicted one's level of overall body dissatisfaction as well as of the six separate areas of the body (Model 1: BIS total, explained 7.1% of the variance, $R^2 = .071$, $F(3, 836) = 21.24$, $p < .01$; Model 2: BIS social and hair, explained 22.8% of the variance, $R^2 = .228$, $F(3, 839) = 82.85$, $p < .001$; Model 3: BIS Head and Neck scale, explained 23.7% of the variance, $R^2 = .237$, $F(3, 835) = 86.60$, $p < .001$; Model 4: BIS Muscularity and posture score, explained 13.6% of the variance, $R^2 = .136$, $F(3, 838) = 43.850$, $p < .001$; Model 5: BIS Hip score, explained 4.0% of the variance, $R^2 = .040$, $F(3, 835) = 11.603$, $p < .001$; Model 6: Chest score, the model explained 10.8% of the variance, $R^2 = .108$, $F(3, 838) = 33.918$, $p < .001$; Model 7: BIS Genital score, the model explained 11.8% of the variance, $R^2 = .118$, $F(3, 830) = 36.985$, $p < .001$).

Table 1. Demographic characteristics.

N (%)	Total Sample 850 (100)	BT identity 729 (85.8)	NBGQ identity 121 (14.2)
Age			
Median (years)	23.92	23.83	24.47
Min, Max	17.07–69.30	17.69 – 69.29	17.07 – 60.59
Sex assigned at birth			
AMAB	442 (52)	409 (56.1)*	33 (27.3)*
AFAB	408 (48)	320 (43.9)*	88 (72.7)*

Note. Significant difference based on gender identity, * $p < 0.01$.

Table 2. Body images scores in BT and NBGQ individuals.

	Total sample		BT identity		NBGQ identity	
	M	*SD*	*M*	*SD*	*M*	*SD*
Total score	3.40	.48	3.43	.47	3.19	.50
Social and hair items	3.49	.68	3.54	.66	3.20	.74
Head and neck region	2.99	.73	3.03	.72	2.77	.75
Muscularity and posture	3.04	.61	3.06	.60	2.89	.63
Hip region	3.55	.82	3.56	.83	3.49	.76
Chest region	4.07	.85	4.08	.83	4.04	.95
Genitals	4.18	.81	4.28	.78	3.60	.76

Note. Table presents Body Image Scale (BIS) total and subscale scores.

Table 3. Multiple regression analyses on body image.

Body image scales (BIS)	*B*	*SE B*	β	95% CI Lower	95% CI Upper	*t*	*p*
Model 1: Total score							
Gender identity	−.204	.047	−.148	−.296	−.112	−4,341	<.001
SAAB	−.135	.034	−.141	−.202	−.069	−3.996	<.001
Age	−.008	.001	−.181	−.011	−.005	−5.251	<.001
Constant	3.712	.051		3.612	3.812	73.001	<.001
Model 2: Social and hair items							
Gender identity	−.143	.061	−.073	−.263	−.024	−2.352	.019
SAAB	−.643	.044	−.471	−.729	−.557	−14.670	<.001
Age	−.006	.002	−.096	−.010	−.002	−3.066	.002
Constant	3.987	.066		3.858	4.116	60.826	<.001
Model 3: Head and neck region							
Gender identity	.052	.065	−.025	−.180	.074	−.808	.419
SAAB	−.726	.047	−.497	−.818	−.634	−15.553	<.001
Age	−.009	.002	−.144	−.013	−.005	−4.610	<.001
Constant	3.613	.070		3.476	3.750	51.684	<.001
Model 4: Muscularity and posture							
Gender identity	−.160	.060	−.092	−.278	−.041	−2.650	.008
SAAB	−.035	.043	−.029	−.120	.051	−.798	.425
Age	−.010	.002	−.179	−.013	−.006	−5.093	<.001
Constant	3.352	.065		3.224	3.481	51.396	<.001
Model 5: Hip region							
Gender identity	−.236	.078	−.100	−.389	−.084	−3.037	.002
SAAB	.556	.056	.337	.446	.666	9.921	<.001
Age	−.007	.002	−.098	−.012	−.002	−2.935	.003
Constant	3.521	.084		3.356	3.685	41.907	<.001
Model 6: Chest region							
Gender identity	−.182	.081	−.075	−.342	−.023	−2.243	.025
SAAB	.502	.059	.295	.387	. 618	8.556	<.001
Age	−.008	.003	−.099	−.013	−.002	−2.928	.004
Constant	4.068	.088		.387	.618	46.131	<.001
Model 7: Genitals							
Gender identity	−.588	.078	−.251	−.741	−.435	−7.544	<.001
SAAB	−.307	.056	−.189	−.417	−.198	−5.496	<.001
Age	−.007	.002	−.093	−.012	−.002	−2.766	.006
Constant	4.606	.085		4.440	4.772	54.486	<.001

Note. The table presents the unstandardized *B*, standard error of *B*, standardized β, 95% CI, and *p* value of the multiple regression analyses including gender identity, age, and sex assigned at birth (SAAB) predicting BIS scores.

As shown in Table 3, gender identity was significantly associated with all BIS scales, except for the BIS Head and Neck scale. This indicated that individuals with a NBGQ identity reported less dissatisfaction with most areas of the body compared to BT individuals, and an equal level of dissatisfaction with the head and neck region. The largest difference was observed on the genital scale, indicating that NBGQ individuals primarily reported less dissatisfaction with their genitals compared to BT individuals. Furthermore, sex assigned at birth and age were associated with BIS scores on all subscales, except for the Muscularity and Posture scale. A higher age appears to be associated with less body dissatisfaction. Furthermore, AFAB adults reported significantly less overall body dissatisfaction, and were less dissatisfied with their hair, head, neck, and genitalia than AMAB adults. In contrast, individuals AFAB reported greater dissatisfaction with the hip and chest region compared to individuals AMAB.

GAMT requests and motives

To determine whether treatment preferences at clinical entry differed between NBGQ and BT individuals, treatment preferences were divided into requests for all available GAMT or requests for a selection of available GAMT. As shown in Table 4, 441 (60.5%) of the BT identifying patients requested 'all available treatment', 267 (36.6%) requested a 'selection of all available treatment', and 21 (2.9%) individuals were indecisive about their request for GAMT. Of the 121 adults who identified with a NBGQ identity, 16 (13.2%) requested 'all available treatment', 94 (77.7%) requested a 'selection of all available treatment', and 11 (9.1%) were not sure about their current wish for GAMT or did not have a current wish

Table 4. Treatment requests and motives of binary and non-binary identifying adults.

	Total Sample	BT identity	NBGQ identity
	n = 850	*n* = 729	*n* = 121
Treatment request *n* (%)			
All available GAMT	457 (53.8)	441 (60.5)*	16 (13.2)*
Selection of available GAMT	361 (42.5)	267 (36.6)*	94 (77.7)*
Not yet decided	32 (3.8)	21 (2.9)	11 (9.1)
Motives selective treatment *n* (%)			
Risks/quality	170 (47.1)	143 (53.6)*	27 (28.7)*
No genital dysphoria/surgery needed	104 (28.8)	62 (23.2)*	42 (44.7)*
Gender identity	23 (6.4)	4 (1.5)*	19 (20.2)*
Age	5 (1.4)	5 (1.9)	0 (0.0)
Other/unclear	59 (16.3)	53 (19.9)	6 (6.4)

Note. Significant difference based on gender identity, * $p < .05$

for GAMT. Adults who were indecisive about whether they required GAMT were excluded from further analyses.

A Chi-Square test was performed to examine the relation between gender identity and type of treatment request. There was a significant medium association between gender identity and medical treatment request, ($\chi^2(1) = 88.02$, $p < .001$, Cramer's V = .328). The odds of an individual requesting all available GAMT was 9.70 higher if they identified with a BT identity compared to adults who identified as NBGQ (odds ratio).

Table 4 illustrates the frequency at which a motive was reported in case of a selective GAMT request. Chi-square post-hoc analyses indicated significant differences in the frequency that motives were reported between BT and NBGQ people (χ^2 (4) = 67.91, $p < .001$). BT people more frequently reported "Risk/Quality of the operations" as the main motive of not requesting all available GAMT ($p = .002$), whereas NBGQ adults were more likely to report 'no genital dysphoria/no need for genital surgery' ($p = .004$), or their 'gender identity' ($p < .001$) as their main motive to request a selection of the available GAMT.

Gender identity and body dissatisfaction in relation to treatment request

Logistic regression analyses were performed to assess the impact of gender identity and body dissatisfaction on the likelihood that individuals would request a selection of available GAMT. The models all contained the independent variables gender identity, one of the BIS scales, sex assigned at birth, and age. As shown in Table 5, the strongest predictor of requesting a selection of available GAMT was one's gender identity, with an odds ratio larger than 5.00 in all models. This indicates that NBGQ identifying people had a five times higher likelihood of not requesting all modalities of GAMT than individuals with a BT identity. Second, the BIS total score, BIS Muscularity and Posture score, and BIS Genital score significantly predicted the odds of an individual's request for GAMT. Individuals who report higher levels of overall body dissatisfaction, and greater dissatisfaction with their muscularity, posture, and genitals were more likely to request all modalities of GAMT instead of a selection of GAMT. Third, sex-assigned at birth was a significant predictor for requesting a selection of available treatment in all models. Adults AFAB were more likely to request a selection of available GAMT than individuals AMAB. Age did not appear to be a significant predictor of a selective GAMT request in any of the models.

Discussion

Overall, this study provides considerable insight into the experience of body dissatisfaction in NBGQ people and their motives for GAMT at clinical entry. There are three key findings of this study. First, the study provides supporting evidence that NBGQ individuals, much like BT people, seek GAMT due to discomfort with their bodies. However, their body dissatisfaction appears less severe and more centered on specific regions of the body compared to BT individuals. NBGQ referrals are primarily dissatisfied with publicly visible body regions, but less so with more private body areas such as the genital area. The body dissatisfaction of BT individuals appears to reside more broadly across the body, as they report dissatisfaction with both genital and non-genital areas. The second main finding of this study is that NBGQ people opt for less modalities of GAMT, primarily by showing less interest in gender-affirming genital surgery. Third, gender identity appeared a significant predictor of the likelihood that one would prefer a selection of GAMT. At equal levels of body dissatisfaction, NBGQ persons desire fewer GAMT interventions

Table 5. Logistic regression predicting treatment request.

Treatment request	B	S.E.	Wald	df	*p*	Odds ratio	95% C.I. for odds ratio	
Model 1								
Gender identity	1,971	.301	42.922	1	.000	7.175	3.979	12.93
BIS total	−.714	.176	16.476	1	.000	.490	.347	.691
SAAB	1.268	.167	57.658	1	.000	3.552	2.561	4.927
Age	.007	.008	.774	1	.379	1.007	.992	1.022
Constant	1.164	.689	2.853	1	.091	3.203		
Model 2								
Gender identity	2.048	.298	47.353	1	.000	7.754	4.327	13.895
BIS hair	−.210	.132	2.539	1	.111	.811	.626	1.049
SAAB	1.170	.181	41.663	1	.000	3.221	2.258	4.594
Age	.010	.007	1.795	1	.180	1.010	.995	1.025
Constant	−.590	.578	1.043	1	.307	.554		
Model 3								
Gender identity	2.057	.298	47.676	1	.000	7.824	4.363	14.028
BIS head and neck	−.145	.124	1.387	1	.239	.865	.679	1.101
SAAB	1.232	.186	43.932	1	.000	3.426	2.381	4.932
Age	.010	.007	1.716	1	.190	1.010	.995	1.025
Constant	−.909	.511	3.161	1	.075	.403		
Model 4								
Gender identity	2.028	.299	46.100	1	.000	7.602	4.233	13.654
BIS muscularity and posture	−.301	.134	5.057	1	.025	.740	.569	.962
SAAB	1.329	.165	64.459	1	.000	3.775	2.730	5.222
Age	.009	.008	1.537	1	.215	1.009	.995	1.024
Constant	−.458	.508	.813	1	.367	.632		
Model 5								
Gender identity	1.941	.291	44.440	1	.000	6.966	3.937	12.327
BIS hip	−.152	.102	2.217	1	.136	.859	.704	1.049
SAAB	1.407	.176	64.189	1	.000	4.084	2.894	5.761
Age	.011	.007	2.027	1	.155	1.011	.996	1.026
Constant	−.914	.439	4.334	1	.037	.401		
Model 6								
Gender identity	2.003	.290	47.637	1	.000	7.410	4.196	13.088
BIS chest	−.058	.100	.329	1	.566	.944	.775	1.149
SAAB	1.322	.172	59.146	1	.000	3.753	2.679	5.256
Age	.009	.007	1.566	1	.211	1.009	.995	1.024
Constant	−1.152	.483	5.682	1	.017	.316		
Model 7								
Gender identity	1.688	.326	26.799	1	.000	5.411	2.855	10.254
BIS genitals	−1.496	.128	136.24	1	.000	.224	.174	.288
SAAB	1.100	.188	34.302	1	.000	3.003	2.078	4.339
Age	.000	.009	.001	1	.974	1.000	.983	1.017
Constant	5.297	.639	68.759	1	.000	199.7		

Note. BIS: Body Image Scale; SAAB: sex assigned at birth

than BT people. NBGQ individuals thereby report their gender identity and the lack of genital dysphoria as primary motivators, whereas BT individuals who do not opt for specific medical interventions more frequently motivate this decision from the perspective of anticipated risks of interventions or unsatisfactory results.

As hypothesized, NBGQ individuals reported less body dissatisfaction than BT persons. This is consistent with previous research in which body dissatisfaction in NBGQ individuals appeared less prominent and more fluctuating in their overall experience of GI (Jones et al., 2019; Clark, Veale, Townsend, Frohard-Dourlent, & Saewyc, 2018). NBGQ individuals cite other gender domains besides their anatomy, such as gender identity, gender presentation, and gender expression, as key determinants of their experienced gender (Kuper, Wright, & Mustanski, 2018; Wensing-Kruger et al., in preparation). The current results therefore reemphasize that GI, especially in NBGQ individuals, is not solely determined by the self-concept of one's physique, but must be understood from the interaction with other gender domains and social factors (van de Grift et al., 2016).

For example, NBGQ people describe their GI as an imbalance of femininity and masculinity within and between different gender domains (Pulice-Farrow et al., 2020). Feelings of incongruence occur primarily when they experience their own gender expression as too masculine or

feminine, such as by wearing skirts or dresses. Social stressors, such as identity invalidating experiences, misgendering or the encounter with binary categorized social environments such as dressing rooms or public restrooms, are often reported as important triggers of gender distress in NBGQ people (Galupo, Pulice-Farrow, & Lindley, 2020; Johnson, LeBlanc, Deardorff, & Bockting, 2020). To cope with these triggers of GI, NBGQ people may place a strong emphasis on gender expression and appearance besides the focus on their bodies, and express their gender through their clothing, hairstyle, and makeup (Galupo, Pulice-Farrow, & Pehl, 2021; Twist & de Graaf, 2019). Also, the use of a self-assigned name and gender neutral or fluid pronouns are important ways of achieving greater congruence with their NBGQ identity (Galupo et al., 2021; Twist & de Graaf, 2019). NBGQ GI therefore seems to be more related to social gender domains, than to the distress resulting from an incongruence between their anatomy and gender identity (Cooper, Russell, Mandy, & Butler, 2020; Winters & Ehrbar, 2010).

This study nevertheless indicates dissatisfaction with the body as an important contributing component of gender distress in NBGQ individuals seeking GAMT. By interpreting their body dissatisfaction in the context of social gender stressors, it may be possible to understand why their body dissatisfaction is primarily focused on body features that affect gender expression and social gender recognition, and less centered around private areas of the body. Previous studies in BT persons describe a similar pattern (McGuire, Doty, Catalpa, & Ola, 2016). Among BT people, there is often a strong desire for 'passing' or 'blending', referring to the extent in which a person is socially perceived as their experienced gender (Rood, Maroney, Puckett, Berman, Reisner, & Pantalone, 2017). BT individuals therefore desire physical features of their experienced gender while physical indicators of one's sex assigned at birth, especially those that are difficult to mask in a social context, lead to high levels of body dissatisfaction (van de Grift et al., 2016). The same reasoning seems to hold for body dissatisfaction in NBGQ individuals. Although they may not desire physical characteristics of the 'other' sex as strongly, the body characteristics that are socially visible indicators of their sex assigned at birth do trigger significant physical discomfort.

Another key finding is that with similar levels of physical distress, NBGQ people desire less GAMT than BT people at clinical entry. They report that their NBGQ identity is the primary motivation for not wanting to undergo certain GAMT interventions. This may be because current GAMT interventions are not sufficiently tailored to the needs of NBGQ individuals. As suggested by Koehler et al. (2018), NBGQ individuals are likely to avoid GAMT that results in physical characteristics of the other binary gender, for example, genital surgery. Other GAMT interventions, such as hormonal treatment, have a less prominent effect on physical markers of a binary gender identity and are therefore more likely to be desired by both BT and NBGQ individuals. Furthermore, standardized GAMT interventions may not adequately address the individual desire for masculinization or feminization in NBGQ people (Seal, 2017). This seems confirmed by the increasing desire in NBGQ individuals for non-standardized hormonal (Cocchetti et al., 2020; Van Dijken et al., 2022) as well as surgical (McTernan et al., 2020) interventions that diverge from the dichotomous pathways of traditional binary trajectories.

Satisfactorily enacting a NBGQ identity appears to be a complex balance between various gender domains in interaction with one' s social context. Body dissatisfaction has a significant role in the experience of GI, but should be contextualized in relation with other gender domains. Although GAMT leads to greater body satisfaction and reduced physical distress, it may insufficiently alleviate overall gender distress in NBGQ people. Galupo et al. (2020) indicated that, although examined in a non-clinical sample, NBGQ people were less likely to expect that medical transitioning would decrease their overall GI as it exacerbates other aspects of gender distress. Although medical interventions may help to achieve a more androgynous body and elevated levels of physical gender congruence, it may also cause additional distress due to increased levels of misgendering and social rejection of one's NBGQ identity (Flynn & Smith, 2021). These and other common NBGQ stressors such as invalidation experiences

(Johnson, 2020), feelings of invisibility (Conlin, Douglass, Larson-Konar, Gluck, Fiume, & Heesacker, 2019; Taylor, Zalewska, Gates, & Millon, 2019), and lowered levels of self-esteem (Thorne, Witcomb, Nieder, Nixon, Yip, & Arcelus, 2019) are key aspects of the gender minority stress model. In accordance with this model, these negative experiences explain the poorer health outcomes of NBGQ people compared to cisgender or BT persons (Burgwal et al., 2019; de Graaf et al., 2021, Lefevor, Boyd-Rogers, Sprague, & Janis, 2019; Rimes, Goodship, Ussher, Baker, & West, 2019). As emphasized in WPATH's forthcoming Standards of Care version 8 (SoC 8), gender affirming care should therefore focus on alleviating physical distress through GAMT, as well as enhancing the overall wellbeing of NBGQ individuals.

Although this study clearly supports personalized and individualized transition pathways for NBGQ individuals, it is appropriate to recognize several potential limitations of the study. For example, it is important to remain aware of the heterogeneity of the transgender population, with no clear differentiation between binary and non-binary identifying people (Vincent, 2019). Overall, there is a high diversity in identity experiences and treatment desires. No individual prediction can be made regarding body satisfaction or treatment desire based on gender identity. In clinical practice, it is frequently observed that BT individuals are satisfied without having undergone all possible GAMT, while some NBGQ individuals may desire a medical trajectory that was previously considered to be compatible with a binary identity. Furthermore, as the current study examined NBGQ individuals at a group level, individual differences between NBGQ individuals were not identified. However, from a clinical perspective, these differences are observed. For example, some NBGQ individuals present with a well-thought-out treatment desire, while others may be more questioning as to how medical treatment can affirm their NBGQ gender identity. Treatment desires were surveyed at clinical entry in the current study and information on what GAMT interventions NBGQ individuals actually undergo is not yet available. As treatment desires, as well as motives for GAMT, may change over time it is important to continue to follow this population over the course of treatment. Another limitation is the generic, one-time measurement of body dissatisfaction at the time of clinic entry. As a result, the fluidity of body dissatisfaction in NBGQ people over time or in different environments cannot be captured, while this might be particularly relevant for the NBGQ population. Furthermore, distinct identities that fall under the NBGQ umbrella should be further differentiated to understand their specific experiences of body dissatisfaction. Finally, it is important to note that the current results were obtained from a clinical sample. The present findings are therefore not representative for the whole NBGQ population, as previous research from community samples suggested that not all NBGQ-identifying people have a desire for GAMT (Kennis, Duecker, T'Sjoen, Sack, & Dewitte, 2022; Motmans, Nieder, & Bouman, 2019).

The results of this study have various implications for clinical practice and future research in transgender healthcare. Our findings show that body dissatisfaction may be a major source of distress for some NBGQ individuals, and GAMT may alleviate this distress. In the current field of transgender healthcare, however, there is still mainly expertise in binary transition trajectories. It is therefore urgently needed to improve care for NBGQ individuals as current treatment modalities may insufficiently satisfy the medical needs of NBGQ people. To ensure NBGQ sensitive care, clinicians should be attentive to their individual treatment needs and underlying motives. Attention should be given to contextual triggers and possible fluctuations in NBGQ body dissatisfaction. As such, their physical distress and expectations of GAMT should be assessed in relation to triggers of GI on other gender domains. If GAMT does not satisfactorily reduce the burden of distress on other gender domains, support from a mental health professional may be indicated.

The current results highlight the urgency for research that focuses on the quality of care for the NBGQ population. By involving people from the NBGQ community as partners in the research process, a greater understanding of their experiences and needs can be established. Important topics to study are the way GAMT interventions

can best reduce gender distress in NBGQ individuals. Personalizing medical treatment by, for example, using micro-doses of gender-affirming hormones or modifying current surgical methods, should be investigated. Individual differences in treatment needs and transition pathways within the NBGQ community need to be explored by the use of different research methods. For example, the authors are currently working on a prospective cohort-study as well as a qualitative study to evaluate NBGQ treatment trajectories and their effect on various outcome measures, such as the alleviation of physical and social gender distress, and improvement of quality of life.

In conclusion, similar to BT individuals, physical gender distress appears to be a major motivator for initiating GAMT in NBGQ individuals. However, NBGQ body dissatisfaction seems less severe and NBGQ people desire fever GAMT interventions. In clinical practice, it is important to be attentive to the unique treatment desires and motives of NBGQ individuals, and to carefully assess how GAMT can reduce their gender distress. Hence, clinical practice should aim to provide personalized treatment pathways that both improve body satisfaction and reduce GI in other areas of life.

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