



People Who Undergo Gender Reassignment Surgery: An Overview

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Abstract

Transforming people with gender dysphoria into the desired gender is accomplished through gender reassignment surgery, also known as sex reassignment surgery. When there is a mismatch between a person's gender identity and the sex they were given at birth, it is referred to as gender dysphoria. The last 15 years' significance of research has been heavily scrutinised. A person's perception of their own sexual identity, gender identity, sexual orientation (heterosexual, homosexual, or bisexual), and the likelihood of developing neuropsychiatric disorders are all programmable in our brains during the early stages of development. In order to allow people to freely explore, society should reconsider assigning specific gender roles. Understanding various biological differences in trans people as well as their positive and negative experiences with gender affirming surgery is the goal of the current study.

Keywords: Gender Reassignment Surgery, Gender Dysphoria, Gender Incongruence, Gender Identity, Trans Sexuality, Hormones, Genes

Introduction

Gender reassignment surgery, also known as sex reassignment surgery, is used to help people with gender dysphoria transition to their desired gender. Gender-affirming surgeries alter primary or secondary sex characteristics to match one's gender identity.

Gender dysphoria in adolescents and adults is defined by the DSM-5-TR as a, marked incongruence between one's experienced/expressed gender and their assigned gender that lasts at least 6 months and is manifested by at least two of the following symptoms, they are, marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics, strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics), strong desire for the primary and/or secondary sex characteristics of the other gender, strong desire to be of the other gender (or some alternative gender different from one's assigned gender), strong desire to be treated as the other gender (or some alternative gender different from one's assigned gender), and /or strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender).

The World Professional Association for Transgender Health (WPATH) provides a comprehensive glossary with definitions that have been used over time are as follows:

Sex: refers to sex assigned at birth as male or female, usually based on the appearance of the external genitalia or, in case of ambiguity, other components of sex (internal genitalia, chromosomal and hormonal sex).

Gender identity: The intrinsic feeling of being male, female or an alternative gender.

Gender nonconforming: Individuals whose gender identity, role or expression differs from what is normative for their assigned sex within a given culture and historical period.

Gender dysphoria: Persistent and debilitating distress due to a discrepancy between a person's gender identity and sex assigned at birth.

Gender expression: Personality features, appearance, and behaviour that in each culture and historical period are considered as masculine, feminine or alternative gender roles such as genderqueer or specifically transgender individual.

There are other definitions also provided such as.

Genderqueer: A person whose gender identity and/or role does not fit within a binary gender definition (man/woman, or male/female).

Transgender: An individual who transcends culturally defined gender categories and whose gender identity differs somehow from the sex assigned at birth.

Transsexual: Medical adjective that refers to people who seek to change or who have changed primary and/or secondary sex characteristics through feminising or masculinizing hormones and/or surgery.

Transition: The period in which a person with gender dysphoria changes from the gender role associated with their sex to a different gender role.

Gender Affirmation Surgeries (GASs): All surgical procedures that aim to change primary and/or secondary sex characteristics to affirm gender identity and alleviate gender dysphoria as a result.

Male-to-Female (MtF): Individual assigned male at birth who is changing or who has changed their body and/or gender role to a more feminine body or role, whereas Female-to-Male (FtM) refers to an individual assigned female at birth who is changing or who has changed their body and/or gender role to a more masculine body or role. WPATH, operates in India, organisation recently issued guidelines tailored to the Indian context like iPATH.

Trans women and others born male may experience one or more feminising procedures, resulting in anatomy that is typically gendered female. Among these are genital surgeries such as penectomy (removal of the penis), orchiectomy (removal of the testes), vaginoplasty (construction of a vagina), breast augmentation, tracheal shave (reduction of the Adam's apple), facial feminization surgery, and voice feminization surgery.

Trans men and others born female who seek surgery may undertake one or more masculinizing procedures such as chest reconstruction, breast reduction, hysterectomy (uterus removal), and oophorectomy (removal of the ovaries). In 1972, Sweden became the first nation in the world to offer free “reassignment” treatment and to permit transgender people to legally change their gender after “reassignment surgery.”

Researchers discovered that they were also six times more likely to be hospitalised following a suicide attempt and three times more likely to be prescribed antidepressants. For those who are affected, coping with the growth of transsexualism presents great difficulties and frequently results in heavy psychological burdens. According to research published in The American Journal of Psychiatry, trans people who had gender-affirming surgery were less likely to engage

in anxious, depressive, or suicidal behaviour during the study period the more recent the surgery was (Jackson, 2023). While it offers prolonged and ongoing benefits to people living according to gender identity, mental health kept enhancing for years following surgery (Reuters, 2019). According to a study, gender reassignment surgery results were often seen with 92% satisfaction (Löwenberg, 2010).

Review of Literature

Ross and Need (1989) investigated the association between the sufficiency of surgical result and postoperative psychopathology. It was found following surgery; drug use and criminal behaviour were said to have remained largely unaltered. The majority of patients reported good mental health, and after surgery, relationship satisfaction was said to have increased.

The risks of developing neuropsychiatric disorders are programmed into our brains during early development, according to Ai-Min Bao's (2011) review of sex differences in cognition, gender identity (a person's perception of their own sexual identity), sexual orientation (heterosexuality, homosexuality, or bisexuality), and sex differences in cognition. Although sex hormones play a significant role in gender identity and sexual orientation, they do not alone account for sexual brain distinction. In comparison to heterosexual men, it has been claimed that homosexual men have a bigger anterior commissure (Allen & Gorski, 1992). It should be emphasised that the number or size of neurons in the bed nucleus of the stria terminals (BSTc) appeared to be identical regardless of sexual orientation. Differences in the structure and function of the hypothalamus or other brain regions in connection to gender identity and/or sexual orientation suggest the involvement of a complex neural network in a variety of sexual behaviours.

A study examined the surgical outcomes from 332 individuals who underwent gender reassignment surgery (GRS) from men to women. Results showed that gender reassignment

surgery is still associated with significant complication rates, even when carried out by experienced surgeons in a certified facility. The outcomes also provided new information about the surgical outcomes for patients, which prompted technical advancements aimed at optimising functional outcomes (Neto et al., 2012).

Ozata et al. (2014) wanted to concentrate on the alterations that occurred in patients who underwent sex reassignment surgery and developed a new gender identity. The results showed that the sex reassignment surgery used to treat transsexuality releases the conflict and creates the transformation on official gender and is linked to enhancements in quality of life, self-esteem, family support, sexual life satisfaction, interpersonal relationships, and a decrease in concerns about gender discrimination and gender victimisation.

The impact of male to female gender reassignment surgery on transgender patients' satisfaction was examined by Hess et al. (2014). Following surgery, 27 (26.2%) of the 103 patients were extremely satisfied, bringing the overall satisfaction rate to 63 (61.2%). Nonetheless, the fact that this study's response rate was less than 50% must be acknowledged as a flaw that could skew the findings. Overall conclusions show that gender reassignment surgery had a positive impact on the research participants.

When gender identity disorders occur in childhood, it's been linked to low self-esteem and has interfered with the development of a person's identity (Hepp et al., 2005). Several psychologists contend that defining gender in a heteronormative fashion by deeming only one kind of identity development to be "healthy" (Zucker, 2006). It was assumed that gender identification is taken into account along with sexual identity because the human brain is organized in a sexually dimorphic way.

Brugger et al. (2013) have suggested that the cortical thickness differences in xenomelia could result from bottom-up differences in neural body representation or, equally plausibly, from years, if not decades, of a hostile attitude directed to a part of the body. These findings suggest that dysphoria related to gender-incongruent body parts in female to male (FtM) individuals may be tied to differences in neural representation of the body and altered white matter connectivity.

According to Burke et al. (2017), the neuroanatomical characteristic of transgenderism is tied to brain areas processing self and body ownership, whereas homosexuality appears to be associated with less cerebral sexual distinction.

Mohammadi and Khaleghi (2018) discovered no clear and unique genetic link between transsexualism and sexual orientation. While personality disorders such as schizoid, avoidant, and borderline were most common in transgender people. Furthermore, in terms of environmental determinants, parenting and family characteristics such as closeness to the mother, father absence, parental desire for a boy or daughter, and parental psychopathology have been proposed as key contributors to gender dysphoria.

By accounting for important factors, Tomita et al. (2019) examined the connections between three GAMIs (gender-affirming medical interventions) and scores on six symptom measures. They postulated that those who participated in the gender affirming medical interventions would report having less symptoms on behavioural health outcomes compared to transgender people who wish but have not yet engaged in a gender affirming medical interventions.

The association between gender dysphoria and genetic factors on gonad and brain development was examined by Boucher and Chinnah (2020). Results point to a multifactorial basis for

gender identification by suggesting that there is a difference in the brains of people who identify differently from the gender assigned to them at birth.

A second anatomical scan is recommended by Khorashad et al. (2020) as an easy, quick, and affordable way to increase Signal to noise ratio (SNR) in uncommon clinical populations with low prevalence rates where structural MRI is of interest. It was found that overall, transgender people in grey matter volumes and cortical surface area were more in line with the sex they were given at birth, whereas no group distinctions were found for cortical thickness.

Ristori et al. (2020) supported the idea that brain sexual differentiation and the development of gender identity have a polygenic basis, involving interactions among multiple genes and polymorphism. However, results are in most cases conflicting and the number of genetic studies remains limited. Although it is less clear how such brain structures become the substrate of sex differences in cognition and behaviour. Besides sex hormones, genetic factors are supposed to be the main determinants of brain sexual differentiation.

Trans people could lead a normal and healthy sex life too, if the gender reassignment surgery is a success and they transition into their desired gender. In some cases, people who have been diagnosed with gender dysphoria might back out of their decision to undergo the procedure after knowing about the complications or the risk elements in the surgery or the side effects. Enabling them to take proper decisions about whether they require only hormone therapy or more complex surgical procedures too is important. They must be offered mental and emotional support before the surgery. Moreover, family counselling and efficient participation of the queer community too is required (Mathew & Mangalath, 2021).

Almazan and Keuroghlian (2021), examined associations between gender-affirming surgeries and mental health outcomes, including psychological distress, substance use, and suicide risk.

Findings provide empirical evidence to support provision of gender affirming surgical care for transgender people who seek it. Furthermore, this study provides evidence to support policies that expand and protect access to gender-affirming surgical care for transgender communities.

Bustos et al. (2021) studied the prevalence of regret in transgender individuals who underwent gender affirming surgeries and evaluate associated factors, suggesting there is an extremely low prevalence of regret in transgender patients after gender affirming surgeries.

Bocchino et al. (2022) aimed to provide an overview of the different disciplines involved within a multidisciplinary approach to gender affirming surgeries, focusing mainly on specialists engaged in surgical and perioperative management. Findings suggests that Gender affirmation surgery is a medically necessary intervention for gender dysphoria and should be offered to patients who desire it and meet the WPATH SOC criteria for surgery. Although better quality studies that include clearly defined transgender populations, divided by stage of gender affirming treatment and with appropriate matched control groups are needed to draw firmer conclusions.

Discussion

Gender affirmation surgery may be considered medically necessary when the individual is greater than or equal to 18 years of age, the individual has the capacity to make a fully informed decision and to consent for treatment and the individual has been diagnosed with the gender dysphoria, including the desire to live and be accepted as a member of another gender, usually accompanied by the wish to make their body as congruent as possible with the identified gender through surgery and hormone treatment, the individual's transgender identity has been present persistently for at least six (6) months, not a symptom of a mental disorder; any significant

medical or mental health diagnosis that is present including severe psychiatric disorders and impaired reality testing (e.g., psychotic episodes, bipolar disorder, dissociative identity disorder, borderline personality disorder) which may require psychotropic medications and/or psychotherapy, and include Substance Use Disorder must be reasonably well controlled before surgery is contemplated, and the disorder causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Patients who had gender affirming surgeries reported significant increases in their general psychiatric functioning, quality of life, and body image/satisfaction. Years after surgery, mental health still got better because it continues to help people who live according to their gender identity (Reuters, 2019). Even so, a small percentage of people experience regret, which can occasionally result in de-transition surgeries. These procedures are riskier because microsurgies have a failure rate of about 5%. The majority of patients might need additional surgeries to correct the defects and negative effects. Concerns are raised concerning the appropriateness and efficacy of these operations in certain individuals because regret and de-transition both have the potential to add a significant burden of physical, social, and emotional misery. Tomita et al. (2019) shed light on the mental health benefits, revealing an 8% annual decrease in the need for mental health therapy following gender-affirming surgery, highlighting the importance of these interventions.

Environmental and biological factors have been suggested to play a role in the variances in gender identification, despite the fact that the cause of gender dysphoria is still unclear. While some studies have found no obvious biological anomalies in transgender people, such as sexual chromosome aberrations, other studies have suggested a possible association between genetic factors and just one type of transsexualism, such as a higher risk for male to female transsexualism among non-twin siblings or the assumption of prenatal testosterone exposure

for male to female transsexualism. Some neuroanatomical studies that do exist demonstrate differences in transgender people, although their findings are constrained by the tiny samples and most studies have been performed on quality of life of clinical patients, but not enough attention has been paid to quality of life of transsexual patients. Access to that medical care remains problematic even if surgical frontiers are expanding annually thanks to tissue engineering advances that provide more functional genitalia and vocal and facial surgeries that better fit with gender identity.

According to a study, supportive structural contexts, such as state-level laws allowing trans persons to alter their legal gender marker and name, can lessen the emotional reactions trans people suffer because of gender-based maltreatment and the consequences on their mental health (Restar et al., 2020).

These studies illuminate the multifaceted aspects of gender-affirming interventions and underscore the importance of holistic support and care for transgender individuals on their journey towards gender congruence and improved well-being. There may be greater acceptance of people who identify as a different gender from their anatomical sex with more research and the resulting increase in awareness of the condition, including better education of clinicians and understanding in the lay population, and this could help modern society advance.

Conclusion

According to the research that have been evaluated, gender affirmation surgery is a blessing for transgender people and others who experience gender dysphoria. According to reviewed studies, the quality of life, body image, and mental health of transgender people have all significantly improved, although it may have minimal risks and problems. However, in general,

patients who underwent this procedure report high levels of satisfaction, but sometimes regret occurs leading to de-transition procedures, which are more dangerous because micro-surgeries have a high failure rate.

It will take more investigation to determine the causes of gender dysphoria and to categorise all neurological variations in transgender people as gender dysphoric, while some research concentrate on the quality of life of clinical patients, others raise the possibility of a genetic component contributing to transsexualism. Even with developments in tissue engineering that allow for more functioning genitalia as well as voice and facial operations that better align with gender identification, access to medical treatment is still a challenge. Supportive institutional settings, such as state-level regulations permitting trans people to change their legal gender marker and name, can reduce emotional reactions and the repercussions for transgender people's mental health. These studies emphasize how crucial it is to provide transgender people with comprehensive treatment and support as they work toward increased wellbeing and gender congruence. People who identify as different genders from their physical sex may be accepted more readily with further research and education on the condition, which might contribute to the advancement of modern society.

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