



Gender And Sex Non-Alignment In Transgender People: An Examination Of The Complex Interaction

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Article History	Abstract
Submitted- 13 August 2023 Revised- 27 August 2023 Accepted- 12 September 2023	One of the main characteristics of the transgender community is gender and sex non-alignment, which contradicts the widely held belief that gender identity and assigned sex at birth are directly correlated. The expectations of society associated with their ascribed sex and the inward feeling of gender that transgender people experience is profoundly at odds. Many seek gender-affirming treatments, like hormone replacement therapy and surgery, in order to match their physical attributes with their gender identification as a result of this misalignment. The complexity of this experience is influenced by biological, genetic, and neurological aspects; research has shown that genetic markers and differences in brain structure are related to transgender identity. Although there has been progress in the legal and societal acknowledgment of transgender rights, issues such as stigma, discrimination, and restricted access to healthcare remain. In the larger conversation about human variety, a nuanced knowledge of gender and sex non-alignment is essential for promoting inclusivity, empathy, and demolishing prejudices.
CC License CC-BY-NC-SA 4.0	Keywords:- Transgender Community, Non-alignment, Gender, Sex, Hormones

Introduction:-

A key component of the transgender experience is sex and gender non-alignment, which challenges the conventional binary model that presupposes a straight line of correspondence between gender identity and biological sex. Those who identify as transgender—those whose gender identification does not correspond with the sex they were assigned at birth—have a difficult time balancing their internal sense of self with external expectations. Gender identities that go beyond binary classifications provide a challenge to the traditional definition of sex, which is determined by anatomical and genetic traits. When it comes to biology, transgender people might receive treatments like hormone replacement therapy (HRT) to match their gender identity with their physical characteristics. These interventions highlight the dynamic nature of sex and the

capacity to alter secondary sexual traits. The non-alignment can be attributed to both genetic and neurological causes. Research has indicated that there may be differences in brain structures and genetic markers linked to transgender identification. Knowledge of transgender experiences requires knowledge of the difference between sex and gender. While gender is the result of a complex interaction between identity, expression, and social roles, sex is a biological construct. Those who identify as transgender manage the conflict between their gender identification and social norms about their ascribed sex. Socially established gender norms place transgender people at the crossroads of personal authenticity and society's expectations, perpetuating binary thinking. Although public and legal acceptance of transgender rights has grown, difficulties still exist. Transgender people face discrimination, stigma from society, and limited access to healthcare that is gender-affirming. A thorough grasp of gender non-conformity and sex is necessary to promote empathy, dispel myths, and push for a culture that values the variety of experiences that transgender people have to offer. The field of transgender rights is constantly changing, which emphasises the necessity of ongoing activism, education, and cultural changes to make the world more accepting and inclusive of all people, regardless of gender identity.

Non-Alignment of Gender and Sex in Transgender People:-

The conventional binary paradigm of gender and sex makes the assumption that a person's gender identity and their biological sex are well aligned. The experiences of transgender people, however, cast doubt on this oversimplified theory and highlight the complex relationship that exists between gender and sex but is difficult to define.

❖ Basis in Biology:

The anatomical and physiological traits that separate males and females, such as chromosomes, reproductive organs, and hormone profiles, are generally referred to as biological sex. But the growing field of transgender health care highlights the need for more sophisticated knowledge. Research indicates that the configuration and functionality of the brain can significantly influence an individual's gender identification, frequently departing from the binary assumptions linked to their biological sex (Swaab Dick F. & Falgueras Alicia Garcia, 2009). Evidence for a gender identification that differs from a person's biological sex has been found in neurological studies, pointing to a biological basis for transgender identity.

❖ Genetic and hormonal factors:

Hormonal and genetic factors also have an impact on the non-alignment of gender and sex in transgender people. During puberty, the development of secondary sexual traits is significantly influenced by the endocrine system. Hormone replacement therapy (HRT) is a tool that transgender individuals can use to match their gender identity with their physical appearance. For example, transgender women may receive oestrogen therapy in order to acquire traits of feminine secondary sex. These interventions highlight the dynamic relationship between hormonal factors and gender identity, highlighting the malleability of sex traits and the complexity of gender presentation.

Furthermore, the influence of particular genes on gender identification has been investigated in contemporary genomic studies. Research has found genetic variations linked to transgender identity, indicating a possible hereditary cause of gender incongruence. These results cast doubt on the strict binary of male and female and highlight the need for a more inclusive conception of gender and sex.

❖ Gender Identity and Social Constructs:

Social conceptions are crucial in shaping gender identity, even as biological variables also play a part in the non-alignment of gender and sex in transgender individuals. Gender is a complex construct that is influenced by cultural, societal, and personal perspectives rather than being exclusively a biological one. Because of their assigned sex at birth, transgender people may feel dissonance between their gender identification and society's expectations.

The binary paradigm is frequently maintained by socially established gender roles, conventions, and expectations, which causes a mismatch between an individual's gender identification and societal judgements. Pressure to fit in with traditional gender norms can make transgender people feel more alone and discriminated against, in addition to making their struggles worse (Lombardi E L et al., 2001). Recognising how gender is socially created and how it affects transgender people's lived experiences is essential to understanding the non-alignment of gender and sex.

❖ Human rights and legal perspectives:

The non-alignment of gender and sex by transgender people has a significant impact on legal and human rights considerations. The binary definition of gender that many historical legal systems used served to support the idea that a person's gender identification should match the sex to which they were born. Nonetheless, legal frameworks are changing to acknowledge and defend the rights of transgender people as public awareness rises.

As a result of the non-alignment of gender and sex, many nations have recently adopted laws allowing people to modify their gender markers on identifying documents (Human Rights Campaign, 2022). These legislative advancements represent a larger cultural movement that challenges the binary paradigm and recognises the plurality of gender identities. In order to promote inclusivity and eradicate discriminatory practices that stem from antiquated notions of gender and sex alignment, it becomes essential to protect transgender rights.

In summary, transgender people's non-alignment of gender and sex is a complex issue with medical, hormonal, genetic, social, and legal components. The intricacy of gender identity has been emphasised by scientific studies, which highlight the interaction between biological elements and social conceptions. Legal frameworks are adjusting to acknowledge the rights of transgender people as cultural perceptions change, reflecting a growing recognition of the diversity of gender identities.

Understanding gender and sex in transgender people is a dynamic and developing field that challenges conventional wisdom and promotes a society that is more accepting and caring. For the purpose of advancing a society in which everyone may freely express their gender identity without facing prejudice or discrimination, it is imperative that we never stop learning about and honouring the many experiences of transgender people.

Review of Literature:-

Here are some literatures that mentions how the non-alignment of gender and sex pose problem for the transgender individual in normal survival as a human being, thus leading to huge discussion behind this complex interaction.

In the work by (Mukherjee Sudeshna, 2014) stress was given on how the entire handling of the Shanthi case seems incredibly clumsy and callous. Her sexuality, one of a person's most private areas, is being made public for discussion. It must have been frightening enough for Shanthi to know that a gender test had shown abnormalities that would ruin her profession and have a significant impact on her life, particularly in a nation where transsexuals are viewed with disdain and treated like dogs. Furthermore, as Reuters has noted, the exams were initially dropped from the Olympic Games because they are typically insufficiently decisive and necessitate a deeper understanding of the individual.

(Van Wagenen et al., 2013) have emphasized that although it is well known that being a member of a minority group influences how older people feel about their ageing, not much research has been done to look at how different subgroups of older adults may have distinct effective ageing patterns. In this pilot project, they examined and documented successful ageing experiences among a sample of older LGBT (lesbian, gay, bisexual, and transgender) persons. Under the guidance of a community-based participatory research approach, they interviewed 22 LGBT persons sixty years of age and older in semi-structured, in-depth interviews. They used an inductive, grounded theory methodology to examine the recorded and written interviews. Four domains were used to code the experiences of the respondents: social engagement, mental health, emotional state, and physical health. There were four successful ageing grades found. Few people in their sample achieved "traditional success," which is defined as having no issues in any of the four health areas. On a continuum of successful ageing, the majority of the sample was coping with issues to some extent and fell into one of two categories: "surviving and thriving" or "working at it." A tiny percentage were "ailing"—that is, struggling to deal with issues. A portion of the experiences reported by the participants were associated with their LGBT status, whereas other experiences were linked to more universal ageing processes. According to the research, the experiences of LGBT older individuals can be more accurately described by modifying the successful ageing framework to incorporate coping strategies. The revised conceptual model presented here may prove helpful in subsequent studies pertaining to this demographic, as well as more generally for a variety of adult demographics. It may also be adjusted for practical use in order to evaluate and enhance health and well-being.

(Mohanty Hitabilash & Hota Susampad, 2021) have said that although protected by several sections of the Constitution, the transgender population in India was a marginalised and deeply discriminated against group. With its historic ruling in *NALSA vs. Union of India* (also known as the *NALSA judgement*) in April 2014, the Supreme Court officially recognised the civil and political rights of the transgender community. This

recognition stems from the understanding that all people are created equal and that each person has an inherent right to choose, which is a fundamental component of human rights.

By evaluating the Supreme Court of India's interpretation in a number of rulings, the authors have tried to analyse the term "transgender" in the Indian context. It also examines the history of transgender rights recognised in India, including a timeline from that era to the present. After that, this paper explains how transgender people in India have benefited from laws that have been passed to support them and places special emphasis on the Transgender Persons (Protection of Rights) Act of 2019.

(Mondal Bithika et al., 2020) in their paper have stressed that in India, there are unique subcultures for transgender people, known as the hijra community, in addition to heterosexual societies. Understanding their relationships, sexuality, and social interactions is crucial for their psychosocial well-being and related interventions. This study adds to our collective understanding of their marginalisation and lived experiences through their own voices.

(Srinivasan Shiv Prakash & Chandrasekaran Sruti, 2020) have mentioned that India has moved quickly to acknowledge and protect the transgender community legally in the last several years. For gender-affirming medical interventions, more and more people are going to the doctor. Many medical and surgical professionals in the Indian subcontinent who treat transgender patients face clinical and societal obstacles.

(Baljinder & Kanwaljeet, 2011) have said that essentially, it examines the internal ideological and empirical notions of the problem surrounding transgender athletes' involvement in sports. "Taking part in the game is more important than winning," reads the Olympic creed. The key to this is to fight well, not to conquer. "Even though this is a wonderful objective, it has little to do with the realities of the contemporary sports scene. At almost every level of competition, athletes receive rewards for their victories. It is said that second place is the "first loser." Unintentionally, the misguided focus on fame, money, and winning at all costs in modern sports and the media has led to an increase in the market for unhealthy behaviours. One of the most recent equity concerns for sport-governing organisations globally is the participation of transgender athletes in competitive sports, which is attempted to be conceptually studied in this paper. The study looks into the pattern of interconnected dynamics between gender terminology and the legal and medical concerns surrounding the participation of transgender athletes in sports.

All the papers mentioned above scrutinise transgender people and their hardships due to being the way they are, i.e., the non-alignment of gender and sex. Is society doing justice to this community for what they possess naturally and at no fault for being who they are? Everything comes down to the alignment of gender and sex, which is typically observed around us in cisgender individuals.

A Thorough Examination of Human Sexuality: -

One essential component that is deeply ingrained in the fabric of human biology is sex. Our view of sex has changed to accept its complexity, which was originally thought of as a binary notion that was separated into male and female categories based on chromosomes, reproductive anatomy, and secondary sexual characteristics. People are usually assigned a sex at birth based on their visible genitalia; this process impacts cultural expectations and standards surrounding gender roles. The complete range of human diversity is not, however, fully captured by this binary viewpoint.

A combination of physical, hormonal, and genetic factors determine sex biologically. An important factor is chromosome configuration; most people have either an XX (female) or an XY (male) chromosome. These chromosomes control gonad development, deciding if a person develops ovaries or testes. Secondary sexual traits like the growth of breast tissue or facial hair are influenced by hormones like testosterone and oestrogen. Although this binary framework provides a general structure, it does not take into consideration the various variants and complications that may arise. For instance, those who identify as intersex may exhibit differences in sex traits that defy conventional notions of what constitutes a man or woman. The variety of ways in which these variations can appear challenges the conventional idea of a rigid male-female dichotomy. The identification of intersex disorders emphasises the need for a more complex, non-binary concept of sex.

The interaction of gender identity and biology further complicates this view of sex. A person's firmly held feeling of being male, female, or of another gender, which may or may not correspond with the sex assigned at birth, is referred to as gender identity. The mismatch between a transgender person's gender identification and the sex assigned to them highlights the significance of understanding sex as a complex notion that goes beyond physical characteristics.

Apart from biological elements, sociological and cultural variables also impact how sex is seen and expressed. Cultural norms and historical traditions are frequently the source of gender roles, expectations, and stereotypes that influence how people negotiate their sexuality in society. The inflexible adherence to binary sex categories

highlights the need for a more tolerant and inclusive social structure by potentially contributing to the marginalisation of people who don't fit the mould.

Furthermore, how we view sex affects human rights, legal systems, and healthcare. Understanding the various ways that sex shows itself in healthcare is essential to delivering all-encompassing and inclusive medical care. To guarantee equal protection and recognition under the law, legal and human rights considerations—such as the rights of transgender and intersex people—need a sophisticated definition of sex.

In summary, the concept of sex in humans is complex and dynamic, with aspects related to biology, society, and the individual. Although the conventional binary model has been the dominant paradigm for a considerable amount of time, a growing understanding acknowledges the range of sex variances and the difficulties imposed by social standards. Respecting the intrinsic complexity of human existence, advancing equality, and encouraging inclusivity all depend on embracing variation in the expression and experience of sex.

The Multifaceted Study of the Complicated Human Gender Environment: -

Beyond the straightforward binary of male and female, gender is a complex and socially created notion that encompasses a range of identities, functions, and expressions. Gender is a dynamic component of human identity that is profoundly entwined with concepts of masculinity, femininity, and beyond. Cultural, societal, and individual factors all play a role in shaping it. This investigation explores the various facets of gender in humans, recognising its complexity and the need for a more inclusive perspective.

❖ Social and cultural constructs:

Gender roles have long been ingrained in cultures all throughout the world, with expectations about how people should behave depending on the gender they were assigned at birth. These cultural structures, which uphold conventional ideas of masculinity and femininity, frequently reinforce stereotypes. Prominent gender theorist Judith Butler (1990) maintained that gender is performative, highlighting the part that societal expectations play in forming and maintaining gender identity through repeated acts and behaviours.

Social pressure to fit into these predetermined roles can stifle personal expression and reinforce negative gender stereotypes. In order to promote a more inclusive society that values the multiplicity of gender identities and manifestations, it is imperative that these limitations be lifted.

❖ Identity of Gender:

An individual's internal sense of gender, which may or may not correspond with the sex given to them at birth, is referred to as their gender identity. For instance, transgender people have a gender identification that deviates from social norms related to the sex to which they are ascribed. The plurality of gender identities is acknowledged by the American Psychological Association (APA), which highlights the significance of validating and honouring each person's self-identified gender.

Non-binary and genderqueer identities further challenge the binary view of gender. Individuals who identify as non-binary may completely reject the labels of male or female and embrace a gender identification that is not within the norm. Understanding and tolerance for various gender identities facilitates an environment that is more welcoming and supportive of people whose experiences go beyond conventional gender standards.

❖ Cross-sectionality:

Gender theory becomes more nuanced when considering how gender intersects with other facets of identity, such as race, ethnicity, sexual orientation, and socioeconomic class. Critical race theorist Kimberlé Crenshaw coined the term "intersectionality" in 1989 to describe how various facets of identity interact and shape a person's experiences. Because of the interaction of gender- and race-based discrimination, the experiences of a transgender person of colour, for instance, may be very different from those of a transgender person of white. In order to eliminate structural injustices and solve the particular difficulties encountered by people who are at the intersections of several marginalised identities, it is imperative to acknowledge intersectionality. It emphasises how important it is to take an inclusive stance and take into account how different social groups are interconnected.

❖ Dimensions of Human Rights and the Law:

According to their gender identity, legal frameworks and human rights considerations significantly influence people's experiences. Globally, there has been an increase in the movement to acknowledge and defend the rights of transgender and gender nonconforming people. International human rights standards known as the

Yogyakarta standards place a strong emphasis on everyone's rights, irrespective of gender identity or expression (International Commission of Jurists, 2007).

However, difficulties still exist, with regional variations in problems like legal recognition, healthcare access, and anti-discrimination measures. In order to promote a more just and equitable society, advocacy for complete legal protections and human rights for all gender identities is still essential.

In gist, gender is a complex, multidimensional construct that depends on societal, cultural, personal, and legal factors in individuals. It is crucial to recognise the multiplicity of gender identities, manifestations, and experiences in order to promote inclusivity and destroy damaging preconceptions. All people, regardless of gender identity or presentation, can live in a more affirming and egalitarian environment if society embraces a more nuanced definition of gender that goes beyond the binary.

Deciphering the Nuanced Causes of Hormonal Discord Between Gender and Sex :-

The complex interplay of hormones, gender, and sex resists easy classification, casting doubt on the conventional binary model that presupposes a certain correlation between biological sex and gender identity. Chemical messengers generated by the endocrine system—hormones—are essential in determining secondary sexual traits and affecting many bodily physiological functions. Hormonal non-alignment of gender and sex has several causes, including biological and environmental elements that weave a complex web of variation in humankind.

❖ Biological Foundations:

The interaction of genetic, hormonal, and anatomical variables directs the development of biological sex from conception to birth. The chromosomal patterns of a person typically determine their sex; male reproductive organs develop due to XY chromosomes, whereas female reproductive organs develop due to XX chromosomes. But because of how complex this process is, there is a possibility of variance, which might result in a variety of sex expressions.

Sexual development is greatly influenced by hormones, particularly oestrogens and androgens. Males develop secondary sexual traits like a deeper voice and facial hair thanks to androgens, particularly testosterone. Secondary sexual features in females, such as the development of breast tissue and a broader hip shape, are brought about by oestrogens, particularly estradiol. An individual's ascribed sex at birth is determined by the interaction of these hormones throughout foetal development, which affects the differentiation of gonads into testes or ovaries.

❖ Variations in Genes and the Endocrine System:

Genetic factors have an impact on hormonal non-alignment, which calls into question the idea that chromosomes and hormonal equilibrium are solely related. Atypical hormonal profiles can result from variations in genes linked to hormone receptors, enzymes involved in hormone production, or proteins controlling hormone function. Different genetic variations have been linked to disorders like androgen insensitivity syndrome (AIS) and congenital adrenal hyperplasia (CAH). In these conditions, a person's hormone patterns may not match the sex to which they are assigned (Hughes Leuan A & Deeb Asma, 2006; Speiser Phyllis W. et al., 2010)

Endocrine disorders can also make hormone misalignment worse. Hormonal levels can fluctuate due to disorders affecting the pituitary, adrenal glands, or gonads, which can interfere with normal hormone synthesis, secretion, or uptake. Endocrine disorders that might affect hormonal balance include polycystic ovarian syndrome (PCOS) in assigned females and Klinefelter syndrome in assigned men (Azziz Ricardo et al., 2004)

❖ Brain Organisation and Neurological Effects:

Recent research suggests that the anatomy and function of the brain may have an impact on the non-alignment of gender and sex. Neuroimaging studies have revealed structural variations in the brains of people with varying gender identities (Swaab Dick F. & Falgueras Alicia Garcia, 2009). The brain patterns of transgender people may resemble their gender identification more than the sex they were assigned at birth.

Throughout crucial stages of brain development, hormones may also have an impact on gender identity. Hormones, especially sex steroids, influence the development of brain circuits that are involved in sexual behaviour and differentiation. Divergences between assigned sex and gender identity may result from differences in the timing or strength of hormone exposure during these crucial times (Bao Ai-Min & Swaab Dick F., 2011).

❖ Epigenetics and Environmental Factors:

Environmental factors that affect hormonal balance, such as exposure to hormone-disrupting substances, can result in the misalignment of gender and sex. Certain pesticides, plastics, and medications contain endocrine disruptors, which can obstruct the production, absorption, or metabolism of hormones. Changes in reproductive and endocrine function associated with prenatal exposure to these chemicals may have an impact on gender identity (Gore A.C. et al., 2015).

Epigenetic factors, which are changes in gene expression without changing the underlying DNA sequence, also have an impact on hormonal non-alignment. Epigenetic changes brought about by experiences, stress, and environmental stimuli during crucial developmental stages can alter the expression of genes involved in hormone synthesis or receipt. These epigenetic changes may have an impact on variations in hormonal balance and the development of gender identity (Nugent Rachel A. et al., 2011).

In summary, a complex combination of biochemical, genetic, endocrine, neurological, environmental, and epigenetic elements accounts for the hormonal non-alignment of gender and sex. Comprehending the multiplicity of gender and sexual experiences necessitates a thorough understanding of the complex process of human development. A more complex understanding of gender identity and expression will develop as research into the complexities of hormonal impacts develops, promoting an inclusive and caring view of the diverse range of human experiences.

Conclusion: -

Finally, the ongoing struggle of the transgender population with the non-alignment of gender and sex highlights the complexity of human identity and poses a challenge to deeply rooted social norms. Transgender people walk a resilient route, navigating the tension between expectations imposed by a binary framework and their true gender identity. Many people seek gender-affirming interventions because they are driven by a constant need for validation and affirmation, which emphasises the fluid nature of sex and the ability for self-expression. Even with notable advancements in legal and societal acceptance, the transgender population still faces numerous obstacles. Significant obstacles are created by stigma in society, discrimination, and restricted access to healthcare that is gender-affirming. The quest for comprehension, approval, and equal rights is a never-ending process that highlights the necessity of thorough education and cultural transformations.

The conversation around gender and sex non-alignment is changing, and it encourages a more inclusive narrative that values the wide range of human experiences. This conversation demands empathy and openness. To create a culture that respects and affirms each person's freedom to authentically express their gender identity, advocacy for transgender rights, more public awareness, and legislative changes are needed. The ongoing struggles faced by the transgender community serve as a poignant reminder that societal transformation is a continuous process that calls for concerted efforts to dismantle barriers, confront stereotypes, and cultivate an environment in which every person can thrive without facing discrimination or prejudice due to their gender identity.

References:-

1. Azziz Ricardo, Woods Keshia S., Reyna Rosario, Key Timothy J., Knochenhauer Eric S., & Yildiz Bulent O. (2004). The prevalence and features of the polycystic ovary syndrome in an unselected population. *J Clin Endocrinol Metab.*, 89(6), 2745–2749.
2. Baljinder, S., & Kanwaljeet, S. (2011). The Hermeneutics of Participation of Transgender Athletes in Sports – Intensifying Third Force. *Physical Culture and Sport Studies and Research, L II*, 44–48. <https://doi.org/10.2478/v10141-011-0013-9>
3. Bao Ai-Min, & Swaab Dick F. (2011). Sexual differentiation of the human brain: relation to gender identity, sexual orientation and neuropsychiatric disorders. *Front Neuroendocrinol*, 32(2), 214–226.
4. Gore A.C., Chappell V.A., Fenton S.E., Flaws J.A., Nadal A., Prins G.S, Toppari J., & Zoeller R.T. (2015). EDC-2: The Endocrine Society's Second Scientific Statement on Endocrine-Disrupting Chemicals. *Endocr Rev.*, 36(6), 1–150.
5. Hughes Leuan A, & Deeb Asma. (2006). Androgen resistance. *Best Pract Res Clin Endocrinol Metab*, 20(4), 577–598.
6. Lombardi E L, Wilchins R A, Priesing D, & Malouf D. (2001). Gender violence: transgender experiences with violence and discrimination. *Journal of Homosexuality*, 42(1), 89–101.

7. Mohanty Hitabilash, & Hota Susampad. (2021). In The Wake Of Equality – The Realization of The Rights of Transgender Persons in India. *Social Science Research Network*. <https://doi.org/https://dx.doi.org/10.2139/ssrn.3808475>
8. Mondal Bithika, Das Sudeshna, Ray Deepshikha, & Banerjee Debanjan. (2020). “Their Untold Stories...”: Lived Experiences of Being a Transgender (Hijra), A Qualitative Study From India. *Journal of Psychosexual Health*, 2(2), 165–173. <https://doi.org/https://doi.org/10.1177%2F2631831820936924>
9. Mukherjee Sudeshna. (2014). The Curious Case of Shanthi: The Issue of Transgender in Indian Sports. *Rupkatha Journal On Interdisciplinary Studies in Humanities*, 6(3), 123–134.
10. Nugent Rachel A., Fathima Sana F., Feigl Andrea B., & Chyung Dorothy. (2011). The burden of chronic kidney disease on developing nations: a 21st century challenge in global health. *Nephron Clin Pract.*, 118(3), 269–277.
11. Speiser Phyllis W., Azziz Ricardo, Baskin Laurence S., Ghizzoni Lucia, Hensley Terry W., Merke Deborah P., Bahlburg Heino F L Meyer, Miller Walter L., Montori Victor M., Oborfield Sharon E., Ritzen Martin, White Perrin C., & Endocrine Society. (2010). Congenital adrenal hyperplasia due to steroid 21-hydroxylase deficiency: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab.*, 95(9), 4133–4160.
12. Srinivasan Shiv Prakash, & Chandrasekaran Sruti. (2020). Care of transgender individuals in India: A clinical perspective. *Indian Journal of Social Psychiatry*, 36(4), 284–288. https://doi.org/10.4103/ijsp.ijsp_88_20
13. Swaab Dick F., & Falgueras Alicia Garcia. (2009). Sexual differentiation of the human brain in relation to gender identity and sexual orientation. *Functional Neurology*, 24(1), 17–28.
14. Van Wagenen, A., Driskell, J., & Bradford, J. (2013). “I’m still raring to go”: Successful aging among lesbian, gay, bisexual, and transgender older adults. *Journal of Aging Studies*, 27(1), 1–14. <https://doi.org/10.1016/j.jaging.2012.09.001>