

Satisfaction, Regret And Quality Of Life After Gender-Affirming Surgery: Insights From A Cohort Study Of Transgender Men And Women

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the function heredity plays in mood regulation. Longitudinal studies, customized therapies, and incorporating mental health assistance into standard medical care should be the main topics of future research. Healthcare professionals can create more effective plans to assist menopausal women and lessen the stigma associated with this transition by filling in these gaps.

Keywords: Menopause, Mental health, Hormonal fluctuations, Mood disorders, Anxiety, Depression.

1. INTRODUCTION

GAS plays a critical role in the medical transition process for individuals diagnosed with gender dysphoria [1]. This surgical intervention is often pursued by transgender individuals to align their physical appearance with their gender identity, which can significantly improve their overall well-being. However, the outcomes of GAS, particularly in terms of postoperative satisfaction and QoL, remain an area of ongoing research, especially in different cultural and demographic settings. Gender dysphoria, as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), refers to the psychological distress that arises from the incongruence between one's assigned gender at birth and their experienced gender identity [2].

In many cases, individuals with gender dysphoria opt for medical interventions such as hormone therapy and gender-affirming surgeries, including mastectomy, breast augmentation, and vaginoplasty, to mitigate the distress caused by this incongruence [3]. While GAS has been shown to have positive psychological effects in several studies, the long-term impacts of these procedures on patient satisfaction and quality of life, particularly in the Indian people, are not well understood.

In India, gender-affirming surgeries remain a relatively new and complex issue due to a combination of socio-cultural, legal, and healthcare system factors [4]. The stigma surrounding transgender individuals in Indian society often complicates their access to healthcare services, especially specialized medical interventions like GAS. Despite these challenges, the transgender community in India has seen increasing visibility and advocacy in recent years, with more individuals seeking

medical transition to align their physical appearance with their gender identity. Yet, data on the outcomes of GAS in the Indian population is limited, with only a few studies exploring the psychological and QoL outcomes post-surgery.

The present study, conducted at Karpaga Vinayaga Institute of Medical Sciences and Research Centre, aims to bridge this gap by assessing the outcomes of GAS among Indian individuals diagnosed with gender dysphoria. Specifically, it focuses on three common surgical procedures: mastectomy, breast augmentation, and vaginoplasty. The study assesses the associations between postoperative satisfaction, self-reported complications, and the overall QoL among participants. Given the limited research on GAS outcomes for the Indian population, this study is a significant contribution to the understanding of how gender-affirming surgeries affect the psychological well-being and QoL of transgender individuals in India.

GAS has been shown to have positive effects on the psychological well-being of transgender individuals [5]. Studies conducted in Western countries have found that these surgeries can significantly alleviate gender dysphoria, improve self-esteem, and lead to higher levels of life satisfaction [6-9]. However, research in India is sparse. The cultural landscape in India presents unique challenges for transgender individuals, including societal discrimination, lack of legal recognition, and limited access to specialized healthcare services. As a result, individuals in India who undergo GAS may face different psychological outcomes compared to their counterparts in more supportive environments.

The Indian transgender community has historically faced significant marginalization and discrimination [10]. In recent years, however, there has been some progress in recognizing transgender rights, particularly after the landmark Supreme Court ruling in 2014, which granted legal recognition to the third gender [11]. Despite this progress, transgender individuals in India still face considerable challenges, including limited access to healthcare, economic insecurity, and social exclusion. These factors may influence the outcomes of gender-affirming surgeries in the India, as the mental health and QoL of transgender individuals are likely to be shaped by both personal and societal factors.

Moreover, while mastectomy, breast augmentation, and vaginoplasty are widely recognized gender-affirming surgeries, there is considerable variation in how these surgeries are performed and the outcomes experienced by patients [12]. The decision to undergo such surgeries is highly personal, and each individual's experience of satisfaction and QoL following surgery may vary depending on numerous factors, including preoperative psychological conditions, the surgical technique used, and the individual's level of support from healthcare providers and society.

This study seeks to assess the outcomes of GAS among transgender individuals in India, with a particular focus on three key surgeries: mastectomy, breast augmentation, and vaginoplasty. Specifically, the research aims to:

1. Evaluate the level of satisfaction with the surgical outcomes among individuals who underwent GAS.
2. Investigate the association between self-reported complications and postoperative dissatisfaction.
3. Assess the QoL of participants following their gender-affirming surgeries and compare it to general population reference values.
4. Examine the psychological outcomes, particularly focusing on the levels of gender dysphoria and psychological symptoms after surgery.

2. MATERIAL AND METHODS:

2.1 Procedure and Participants

This follow-up study was conducted at Karpaga Vinayaga Institute of Medical Sciences and Research Centre, aiming to assess the outcomes of GAS among transgender individuals in India. All individuals diagnosed with gender dysphoria who applied for gender-affirming interventions at the center between 2023 and 2024 were invited to participate in the study. The cohort was selected from individuals who had their first contact with the clinic and were seeking gender-affirming treatments during this period.

Upon enrollment, participants were asked to fill out a set of questionnaires that assessed various aspects of their gender dysphoria, surgical outcomes, and quality of life. The survey was designed to gather comprehensive data on preoperative psychological conditions, surgical satisfaction, and postoperative complications. Information on the surgical procedures undergone by participants was obtained from medical records or reports from the responsible psychologists and healthcare providers (**Figure 1**). The survey typically took around 45-60 minutes to complete.



Figure 1: Enhancing the Doctor Patient Relationship.

In total, 60 participants were invited to participate in the study, and all 60 participants completed the survey. All participants had undergone gender-affirming surgeries, 15 participants undergoing mastectomy (**Figure 2**), 25 participants undergoing vaginoplasty (**Figure 3**) and 10 participants undergoing breast augmentation. The majority of trans women had undergone vaginoplasty, with some also opting for breast augmentation. On the other hand, the majority of Trans men had undergone mastectomy. The background characteristics of the study population are summarized in Table 1. Except for education level, no significant differences were observed between responders and non responders. A smaller proportion of participants (15%) had lower educational levels compared to the non responding population (21%). Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Karpaga Vinayaga Institute of Medical Sciences and Research Centre. All participants provided informed consent before completing the survey, ensuring the study adhered to ethical guidelines and standards for research involving human participants. This study aims to analyze the outcomes of gender-affirming surgeries, with a particular focus on psychological well-being, satisfaction, and QoL in transgender individuals from India.

Table 1 Sample characteristics and baseline scores of the study participants (n =60).

	n (%)
Sex	
Trans woman	38 (63%)
Trans man	22 (37%)
Age (M, range)	35.2 (19-60)
Education	
Lower	9 (15%)
Intermediate	28 (47%)
Higher	23 (38%)
Expecting risks of gender-affirming medical treatments	
Yes	40 (67%)
No	20 (33%)
Sure of gender-affirming medical treatments	

Sure	45 (75%)
Pretty sure	10 (17%)
Unsure	5 (8%)
SCL-90, GSI (M, SD)	0.56 (0.32)
Overall feelings about life	
Good	28 (37%)
Fair	20 (47%)
Not good	12 (17%)
Social transition	
Yes	58 (97%)
No	2 (3%)
Future medical treatments	
Yes	24 (40%)
Unsure	18 (30%)
No	18 (30%)
Clinic	
Karpaga Vinayaga Institute of Medical Sciences & Research Centre	60 (100%)



Figure 2: A patient with class III breast who underwent spindle shaped subcutaneous mastectomy with free nipple areola complex graft approach. A, Before surgery. B, After surgery.

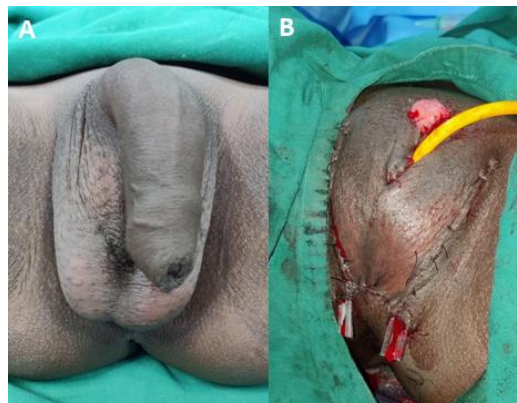


Figure 3: A patient with Vaginoplasty for the Transgender Women approach. A, Before surgery. B, After surgery.

2.2 Main Outcome Measures

Baseline Information

Demographic and diagnostic information were collected at the time of admission to Karpaga Vinayaga Institute of Medical Sciences and Research Centre. Participants were asked to provide relevant personal details, including age, gender identity, and educational background. Additionally, diagnostic information related to gender dysphoria, as defined by the DSM-5, was gathered by clinicians during the initial assessment. The clinicians assessed the severity of gender dysphoria using a self-constructed form based on the DSM-5 diagnostic criteria for gender dysphoria. Participants were also asked if they were aware of the potential risks associated with medical treatments and their certainty in undergoing medical interventions. Responses were recorded on a scale of "yes" or "no" for risk awareness, and "sure," "pretty sure," or "unsure" for their certainty in receiving treatment. To assess the participants' baseline emotional state, they were asked to rate their overall feelings about life using a three-point scale (good/fair/not good) (Bradburn, 1969) [13].

2.3 Treatment Evaluation

At the follow-up stage, participants were asked to share details about their transition progress and whether they had any interest in pursuing additional gender-affirming surgeries. This data was collected through questionnaires specifically designed by the researchers. For each procedure participants had undergone, they were asked to indicate if they had encountered any complications (yes/no) and provide further information about the nature of these complications. Satisfaction with the results of each procedure was evaluated using a 5-point Likert scale, ranging from "very dissatisfied" to "very satisfy." Participants were also asked if they regretted undergoing any of the surgeries, with an invitation to elaborate on their feelings of regret. To ensure the clarity and precision of responses, language-specific versions of the questionnaires were used in the study, allowing participants to respond accurately in their preferred language.

2.4 Gender Dysphoria and Psychological Symptoms

Utrecht Gender Dysphoria Scale (UGDS): The UGDS is a 12-item scale that assesses the level of gender dysphoria experienced by individuals. Participants were asked to rate each item on a 5-point Likert scale. The total score on the UGDS ranges from 12 (minimal dysphoria) to 60 (maximal dysphoria). At follow-up, participants were asked to complete the UGDS according to the gender they were currently living as, in order to accurately measure the current level of gender dysphoria after undergoing GAS.

Symptom Checklist 90-R (SCL-90): The SCL-90 is a 90-item self-report questionnaire that evaluates psychological symptoms. Each item is rated on a 5-point Likert scale, where 0 indicates no symptoms and 4 indicates severe symptoms. The SCL-90 includes a variety of symptoms such as anxiety, depression, and somatization. The Global Severity Index (GSI), which is the average score of all items, was used to measure the overall severity of psychological symptoms. The SCL-90 was administered both at baseline and at follow-up to track any changes in psychological symptoms over time.

These outcome measures were selected to gain a comprehensive understanding of the psychological, emotional, and physical outcomes following gender-affirming surgeries in the Indian population. By evaluating these factors, the study aimed to capture a holistic view of how gender-affirming surgeries impact individuals' mental health, satisfaction with surgical results, and overall QoL in the context of Indian cultural and societal conditions.

2.5 Quality of Life

Satisfaction with Life Scale (SWLS): This scale measures satisfaction with life through participants' agreement with five statements on a 7-point Likert scale. The total score reflects an overall assessment of life satisfaction, with scores ranging from 5 (low satisfaction) to 35 (high satisfaction), with a neutral score of 20 (Diener, Emmons, Larsen, & Griffin, 1985) [14]. In our study, participants will be asked to rate their satisfaction with life both before and after undergoing GAS (GAS), which will help assess whether surgery positively impacts their overall sense of well-being.

Subjective Happiness Scale (SHS): This scale evaluates the level of happiness experienced by participants. It consists of four statements regarding happiness, each rated on a 7-point Likert scale. A higher score indicates a greater level of happiness (Lyubomirsky & Lepper, 1999) [15]. In this study, the SHS will provide insight into whether participants' happiness levels are positively influenced by their experiences with GAS.

Cantril Ladder (CL): The Cantril Ladder is a self-anchoring scale where participants rate how well they feel at the moment, using a scale from 0 (extremely bad) to 10 (extremely good) (Cantril, 1965) [16]. This simple tool will help measure participants' subjective well-being and general mood before and after their surgery.

3. STATISTICAL ANALYSIS

In the analysis of the data, demographic factors such as sex, educational background, attitudes toward surgery and feelings about life, transition status, and planned GAS will be reported as frequencies. Mean values and standard deviations will be calculated for participants' age and baseline Symptom Checklist-90 (SCL-90) Global Severity Index (GSI) scores.

For each surgical procedure received, the number of participants who underwent specific procedures and their corresponding percentages will be reported, along with self-reported complications and satisfaction levels. Satisfaction will be assessed using a 5-point Likert scale, where "dissatisfied" or "very dissatisfied" responses will categorize participants as dissatisfied. Regret will be assessed by asking participants if they regretted undergoing a particular procedure, with those responding affirmatively considered to have experienced regret. Participants' dissatisfaction or regret will be further analyzed in the context of any reported complications and their overall feelings about the surgery.

We will manually review the comments and complications reported by those who expressed dissatisfaction or regret. We will also examine the associations of various factors with dissatisfaction or regret using odds ratios or chi-square calculations. Factors such as "awareness of risks associated with medical therapy," "certainty of undergoing medical therapy," "overall feelings about life," "experience of complications," and "plans for additional surgery" will be considered. Additionally, the relationship between baseline SCL-90 GSI scores and dissatisfaction/regret will be assessed via correlation analysis.

To examine the connection between dissatisfaction and QoL, we will contrast participants who reported dissatisfaction with those who reported satisfaction using scores from the UGDS, follow-up SCL-90 GSI, SWLS, SHS, and CL. Since the assumption of normality may not hold for the dissatisfied group, we will apply nonparametric Mann-Whitney U tests to compare the two groups. Additionally, the satisfied group's values will be compared with control samples from nonclinical and general populations (including cisgender males and females) using one-sample t-tests [15, 17-20]. Cohen's d will be computed to assess the magnitude of the differences.

All statistical analyses will be performed using SPSS 22.0, with the results guiding the understanding of the postoperative satisfaction and QoL outcomes of gender-affirming surgeries in the Indian population. This analysis will help identify key factors that contribute to positive or negative surgical outcomes and provide valuable insights into the overall well-being of transgender individuals after undergoing GAS.

4. RESULTS

4.1 Surgical procedures, complications, and postoperative satisfaction

Table 2 displays the gender-affirming surgeries (GAS) performed, along with self-reported complications and satisfaction rates among the participants. The surgeries included vaginoplasty, breast augmentation, and mastectomy, with complications arising from both medical (e.g., infections), functional (e.g., difficulties with post-operative care), and aesthetic (e.g., scarring) issues. For trans women, complications were reported after vaginoplasty and breast augmentation, although the overall satisfaction with these surgeries was high, ranging from 90% to 92%. Vaginoplasty had the highest satisfaction rate at 92%, with minimal complications (8%). Among trans men, mastectomy was the most common surgery, and complications were reported in 13% of cases. Satisfaction with mastectomy was slightly lower at 80%, with 20% of participants reporting missing data. Overall, satisfaction with gender-affirming surgeries was high, with most participants reporting positive outcomes. Missing data for complications and satisfaction was relatively low, with mastectomy showing the highest percentage of missing responses (20%). These findings indicate that gender-affirming surgeries generally lead to high satisfaction, though some complications can occur, and missing data rates were minimal.

Table 2 GAS received and self-reported complications and satisfaction

Surgical Procedure	Medical Record Data (Received)	Self-Reported Data	Complications (n%)	Satisfied (n%)	Missing Data (n%)
Feminizing Surgery					
Vaginoplasty	25 (42%)	3 (12%)	2 (8%)	23 (92%)	2 (8%)
Breast Augmentation	10 (17%)	2 (20%)	1 (10%)	9 (90%)	1 (10%)
Masculinizing Surgery					
Mastectomy	15 (25%)	3 (20%)	2 (13%)	12 (80%)	3 (20%)

4.2 Respondents reporting postoperative dissatisfaction

None of the participants reported significant regret after undergoing gender-affirming surgeries. However, eight individuals

mentioned mild regret (disappointment) or dissatisfaction with the outcomes, as outlined in Table 3. This group consisted of five trans women and three trans men from all three clinics. Among them, three were dissatisfied after vaginoplasty, two after mastectomy, and one after breast augmentation. Two participants pointed to long-term complications, particularly pain (nos. 4 and 7), as reasons for their dissatisfaction. The other five participants were unhappy with either the functional or cosmetic results. For example, one participant was dissatisfied with the outcome of breast augmentation, while others were disappointed with the aesthetic results of mastectomy (nos. 2, 5, 6, and 8).

Table 3: Respondents reporting dissatisfaction after GAS

Reported	Characteristics (incl. surgical procedures)	Complications (n%)	Reasons for Dissatisfaction
1. Dissatisfaction	46 y/o trans woman	Breast Augmentation, Vaginoplasty	None
2. Minor regret	42 y/o trans woman	Vaginoplasty	None
3. Dissatisfaction	47 y/o trans woman	Vaginoplasty	None
4. Minor regret & dissatisfaction	19 y/o trans man	Mastectomy	Hematoma; skin numbness of the chest; abdominal adhesions
5. Dissatisfaction	20 y/o trans woman	Breast Augmentation, Vaginoplasty	Capsule formation; vaginal fistula
6. Dissatisfaction	20 y/o trans man	Mastectomy	Infection; excessive scar tissue
7. Dissatisfaction	35 y/o trans woman	Vaginoplasty	Pain
8. Dissatisfaction	19 y/o trans man	Mastectomy	Skin surplus

Dissatisfaction or regret was associated with lower life satisfaction, $\chi^2(2) = 8.21$, $p = .015$, and higher baseline SCL-90 GSI scores, $r(127) = .30$, $p = .003$. Participants reporting dissatisfaction were also more likely to experience complications during follow-up (OR = 5.89, 95% CI: 1.15–30.08). Interestingly, awareness of risks and certainty about medical procedures at the beginning of treatment did not significantly correlate with dissatisfaction at follow-up, nor did participants' interest in additional surgeries.

4.3 Relationship between postoperative satisfaction and quality of life

Table 4 displays the mean scores for gender dysphoria, psychological symptoms, satisfaction with life, subjective happiness, and overall life satisfaction in participants reporting dissatisfaction and satisfaction with the outcomes of GAS (GAS), compared to reference values from the literature. Those satisfied with their surgery exhibited significantly lower psychological symptom scores, as indicated by the SCL-90 (GSI), compared to the dissatisfied group. A trend toward reduced gender dysphoria was observed in the satisfied group, as shown by their lower UGDS scores, though these values remained lower than baseline. A notable difference was observed in the Subjective Happiness Scale, with the satisfied participants reporting higher levels of happiness. Similarly, the Cantril Ladder revealed a trend toward a greater sense of overall life satisfaction in the satisfied group. When comparing the satisfied group to normative control samples, the study participants exhibited higher levels of psychological distress (SCL-90; $d = 0.24$) and slightly reduced life satisfaction (SWLS; $d = 0.19$). However, no significant differences were found in gender dysphoria, subjective happiness, or general life satisfaction when comparing the study participants to control groups from the literature, including young adults and adolescents post-GAS.

Table 4: Dissatisfied and satisfaction with surgery; differences in gender dysphoria, psychological symptoms, and quality of life, and the relationship with reference values.

Measure	Dissatisfied (n = 8)	Satisfied (n = 52)	Reference (M)	Test statistics, Satisfied vs. Dissatisfied
Gender Dysphoria	UGDS 20.5 (6.3)	15.4 (5.2)	15.8 ¹⁷	t = 2.45, p = .02
Psychological Symptoms	SCL-90 (GSI) 0.85 (0.72)	0.45 (0.50)	0.31 ¹⁸	t = 2.10, p = .04
Satisfaction With Life	SWLS 19.8 (6.7)	23.2 (6.4)	26.2 ¹⁹	t = 3.20, p = .003
Subjective Happiness	SHS 3.9 (1.2)	5.2 (1.1)	4.89 ¹⁵	t = 3.75, p = .001
Cantril Ladder	CL 4.8 (1.6)	6.3 (1.5)	6.76 ²⁰	t = 2.90, p = .005

5. DISCUSSION

GAS plays a critical role in helping individuals diagnosed with gender dysphoria align their physical characteristics with their gender identity. For transgender individuals, this alignment can result in significant improvements in mental well-being, self-esteem, and overall QoL. While studies conducted in Western countries have shown positive outcomes associated with GAS, the situation in India is different due to unique cultural, social, and healthcare challenges. [21] The study conducted at the Karpaga Vinayaga Institute of Medical Sciences and Research Centre provides crucial data on the outcomes of gender-affirming surgeries for transgender men and women in India. This study is essential in understanding how GAS impacts transgender individuals' satisfaction with surgical results, their psychological health, and their QoL post-surgery, particularly in the Indian socio-cultural context.

India, despite its rich history of transgender communities, has been slow to address the healthcare needs of transgender individuals. Transgender people in India often face stigma and discrimination, which severely impact their access to adequate healthcare.[22] The 2014 Supreme Court ruling recognizing the third gender was a significant step forward, but the struggle for equal rights and healthcare access continues. Transgender individuals still encounter difficulties in accessing gender-affirming care, including surgery. Therefore, this study becomes crucial for several reasons.[23]

In recent years, the transgender community in India has gained increased visibility, thanks to advocacy and legal recognition. As a result, there has been a surge in the demand for gender-affirming medical treatments, including surgery. However, despite the demand, there is limited research on the outcomes of such surgeries within the Indian context.[24] This study offers valuable insights into the postoperative experiences of transgender individuals and highlights key areas where healthcare systems can improve.

India's cultural landscape presents unique challenges for transgender individuals. The general public's lack of acceptance, combined with ongoing social stigma, often results in transgender people facing exclusion from societal institutions, such as education, healthcare, and employment. [25] These experiences of marginalization can exacerbate psychological distress, which may influence the outcomes of GAS. Thus, studying the postoperative satisfaction and QoL of transgender individuals in this context is essential for understanding how societal factors interact with the medical outcomes of gender-affirming surgeries.

While gender-affirming surgeries have been studied in other parts of the world, particularly in Western countries, research on these surgeries' impact on transgender individuals in India remains scarce. This lack of data makes it difficult for healthcare professionals and policymakers to effectively cater to the specific needs of the transgender population. [6-9]. The present study fills this gap by providing data on the satisfaction, complications, and psychological outcomes of gender-affirming surgeries among Indian transgender individuals, offering a rare and much-needed perspective in the context of Indian healthcare.

The study focused on three types of gender-affirming surgeries: mastectomy, breast augmentation, and vaginoplasty. These surgeries were performed on transgender men and women, respectively. The findings indicate that overall satisfaction with the surgeries was high, with 92% of transgender women satisfied with their vaginoplasty and breast augmentation outcomes, and 80% of transgender men satisfied with their mastectomy results.[26] However, dissatisfaction and minor regret were reported by some participants, primarily due to complications such as scarring, infections, and pain.

The study found that complications, although present, did not significantly affect overall satisfaction. For example, while 13% of trans men reported complications after mastectomy, only 20% expressed dissatisfaction. This suggests that while complications did occur, they did not necessarily lead to poor surgical outcomes. For transgender women, the satisfaction with vaginoplasty was particularly high (92%), indicating that this procedure may have a particularly positive impact on

postoperative satisfaction in the Indian context.[27]

Some participants reported long-term complications such as pain or issues with post-operative care, which contributed to dissatisfaction. These findings align with previous research indicating that while GAS can improve mental health and self-esteem, it is not without its risks. It is crucial for healthcare providers to offer comprehensive preoperative counseling and post-operative care to minimize the impact of these complications on the patient's overall experience.[28]

One of the most significant findings of this study is the relationship between dissatisfaction and preoperative psychological conditions. Participants who expressed dissatisfaction or regret after their surgeries were found to have higher baseline scores on the Symptom Checklist-90 (SCL-90), indicating greater psychological distress before the surgery. This suggests that transgender individuals with preexisting mental health issues may be more likely to experience dissatisfaction following GAS.[29]

The findings highlight the importance of addressing mental health concerns before undergoing GAS. Given that dissatisfaction was linked to higher levels of preoperative psychological distress, it is essential that transgender individuals undergoing surgery have access to comprehensive psychological support. Preoperative counseling and psychological evaluations could help set realistic expectations and mitigate potential dissatisfaction post-surgery.[30]

On the other hand, those who were satisfied with their surgeries exhibited significant improvements in psychological well-being. These individuals showed lower psychological symptom scores and higher levels of happiness and life satisfaction. These findings suggest that GAS can have a profound positive impact on psychological well-being when the surgeries meet the patient's expectations. This underscores the importance of ensuring that the procedures are performed with the utmost care and attention to the patient's needs.[31]

The study assessed the QoL of participants post-surgery using several measures, including the SWLS, SHS, and Cantril Ladder. The results revealed that participants who were satisfied with their surgeries reported significantly higher levels of happiness and life satisfaction compared to those who were dissatisfied. Additionally, the satisfied group exhibited reduced gender dysphoria, as indicated by their lower Utrecht Gender Dysphoria Scale (UGDS) scores.[32]

These findings are consistent with the broader literature on gender-affirming surgeries, which suggests that aligning one's physical appearance with their gender identity can significantly enhance QoL and reduce gender dysphoria.[33] For the participants in this study, successful surgeries led to improvements in happiness and overall life satisfaction, further emphasizing the importance of GAS in the gender transition process.

Interestingly, the study also compared the QoL of participants with control samples from the general population. Although the transgender individuals in this study reported higher psychological distress and slightly lower life satisfaction compared to the general population, the differences were relatively small. [34] This suggests that while GAS can significantly improve QoL, transgender individuals may still face ongoing challenges related to social stigma and marginalization that affect their mental health.

5.1 Limitations and Implications for Future Research

While this study provides valuable insights into the outcomes of GAS in India, it has some limitations that should be addressed in future research. First, the sample size was relatively small (60 participants), and the study was cross-sectional in nature. Longitudinal studies would provide more robust data on the long-term outcomes of GAS and the sustained impact on QoL and psychological well-being. Additionally, the study did not include a control group of transgender individuals who did not undergo surgery, which would have allowed for a clearer understanding of the specific effects of GAS on psychological outcomes.

5.2 Need for Larger and More Diverse Samples

Future research should include a larger and more diverse sample to capture a broader range of experiences. This would help ensure that the findings are generalizable to a wider population of transgender individuals, particularly those from different regions of India with varying levels of access to healthcare.

5.3 Exploring Social and Cultural Factors

Future studies should also explore the role of social and cultural factors in shaping the outcomes of GAS. Given that transgender individuals in India face significant societal challenges, understanding how these external factors influence the psychological and QoL outcomes post-surgery is essential for providing more holistic care.

6. CONCLUSION

This study provides significant insights into the outcomes of gender-affirming surgeries for transgender individuals in India. It highlights the high levels of satisfaction with GAS among participants, particularly among transgender women undergoing vaginoplasty, as well as the importance of preoperative psychological conditions in determining postoperative satisfaction. The study also underscores the positive impact that successful GAS can have on psychological well-being and QoL.

However, it also highlights the challenges that transgender individuals face, both preoperatively and postoperatively, and the need for comprehensive mental health support throughout the transition process.

As the transgender community in India continues to gain visibility and advocate for their rights, it is essential that the healthcare system adapts to meet their needs. This study provides a crucial foundation for understanding how GAS impacts transgender individuals in India, offering valuable information that can help improve healthcare practices and policies for this marginalized group.

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