

Post Interventional Complications among Transsexual after Medical/Surgical Procedures in Tamil Nadu-An Observational Study

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ABSTRACT

Background: The majority of research on the quality of life (QoL) of transgender individuals shows improvements after hormonal or surgical gender-affirming care, but overall QoL frequently stays below that of the general population. Although mental health and sexual performance may still be impacted, reviews indicate that up to 80% of patients report significant improvements in their quality of life following medical therapies. Similar results have been found in European cohorts. Adolescent research highlights the detrimental effects of body dissatisfaction on mental and quality of life. The study focused on how gender-affirmative care affects sexual satisfaction, habits, and general quality of life in Tamil Nadu transsexuals in India.

Materials and Methods: The study, which took place over nine months in transgender clinics around Tamil Nadu, enrolled 135 patients who had undergone gender-affirmative medical or surgical treatment. A bilingual, interviewer-administered questionnaire based on WHO-BREF and SF-36 was completed by eligible participants who were at least 18 years old and gave their informed consent. In order to evaluate the participants' sociodemographic profiles and social behaviour, data were analysed using SPSS 26.0, with categorical variables reported in frequencies and chi-square tests applied.

Results: According to the study, the majority of patients received gender-affirming care (GAC) in private institutions between the ages of 11 and 30. With body dysphoria as the main cause, common procedures included hormone therapy (87.4%), laser hair removal (92.6%), breast implants (74.8%), and facial feminization (71.1%). More than half (53.3%) had adverse consequences, primarily infections (59.2%) and discomfort (75%). Despite differences in sexual and employment options, 67.4% of respondents reported feeling happier after the GAC, 65.2% reported feeling more accepted by society, and 63.7% reported earning more money. The majority of facilities offered multidisciplinary teams (76.3%) and counselling (68.1%), although admittance procedures varied, with many preferring guru support. Although moderate to severe pain was prevalent, quality of life outcomes revealed that 54.8% of respondents reported improved QoL and 54.8% were satisfied with their health.

Conclusion: Associations highlighted the links between age, education, employment, residence and sexual practices with younger groups more engaged in commercial sex and safe sex practices. Overall, GAC improved psychosocial well-being, but challenges in health, income, stability and facility practices persisted.

Keywords: Quality of life (QoL), gender-affirming care (GAC), Thayamma (Jamaat), hormone therapy, facial feminization

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INTRODUCTION

Trans people are a population disproportionately affected by adverse health outcomes, not all trans people need gender-affirming care. In fact, a significant proportion of trans people report not needing medical gender-affirming interventions. In a Canadian survey of 433 trans persons, 23% were living in their perceived gender without any medical procedures [1]. Similarly, 18% of the 6,456 trans respondents in a large American study said they lived full-time in accordance with their gender identification without the need for medical procedures [2]. Gender affirming medical intervention is a critical health determinant for trans people with gender dysphoria since it helps alleviate the condition and make the person more gender consistent. Access to gender-affirming healthcare varies greatly between nations.

In many countries, trans people are not recognized, and in some countries, trans people are even criminalized [3, 2]. In addition to legal limitations, gender-affirming medical care is contingent upon meeting certain treatment requirements, health systems, and insurance coverage. This kind of

medical care has to be paid for out of pocket in many nations, and in other nations, stringent gatekeeping might restrict access to necessary medical care [1]. For trans persons who require it, limited access to gender-affirming healthcare may have detrimental social and health effects, such as depression, increased discrimination, decreased quality of life, and increased suicidality [4-7].

Most research on transgender people's quality of life (QoL) focuses on individuals who have received hormonal therapy or other gender-affirming medical interventions in order to evaluate how these interventions enhanced QoL. According to a recently released meta-analysis, transgender individuals generally experience lower quality of life (QoL) than the general population across all dimensions examined. Eighty percent of transgender individuals who had hormonal therapy and other gender-affirming therapies experienced a considerable increase in their quality of life following hormonal/medical interventions, according to another review [2]. Another review validated the benefits of hormone therapy on quality of life [3]. According to a recent Swedish study that evaluated trans women's quality of life both before

and after gender-affirming surgery, overall quality of life increased a year after the procedure. Although QoL increased, it was still lower than that of the general population, according to the same study [8]. Another study of trans teenagers in Germany discovered that body dissatisfaction led to sadness, anxiety, and social disengagement in addition to a significant reduction in quality of life. According to other research, transgender people's quality of life is comparable to that of controls or the general population, with a few deviations pertaining to poorer sexual functioning and mental health. A recent Swedish study which assessed QoL among trans women before and after gender-affirming surgery found that, overall, QoL improved one year after gender-affirming surgery. The same study found that, while QoL improved, it was still lower compared to that of the general population [8].

Another study conducted among trans adolescents in Germany found that body dissatisfaction decreased QoL significantly as well as caused depression, anxiety, and social withdrawal. Other studies have suggested that the QoL of trans people compared to that of controls or the general population, is similar, with some exceptions related to worse sexual functioning and mental health among trans people. Data on gender affirmative care is infrequent scarce in the Indian context. Our study sought to determine how gender affirmative care—both medical and surgical—affects transsexuals' quality of life, sexual habits, and sexual satisfaction in Tamil Nadu.

AIM AND OBJECTIVES

- To study the quality of life after the gender affirmative medical / surgical care.
- To evaluate the impact of Gender affirmative care on post interventional complications among Transsexuals after medical/surgical procedures in Tamil Nadu.

MATERIALS AND METHODS

Ethics approval for the study protocol: Ethical permission obtained from the Institute Ethics Committee of NACO. Administrative approval for conducting the study was obtained from the Research Review Committee of TANSACS, the nodal body for all HIV/AIDS related research in Tamil Nadu.

Table 1: Types of Gender-Affirmative Care, Hormone Therapy, Surgical Outcomes, and Related Experiences among Study Participants

VARIABLES	Frequency (N = 135)	Percentage (%)	
Gender Affirmative Care in Facilities			
Age at first gender affirmative procedure	11 - 20 Years	54	40
	21 - 30 Years	60	44.4
	30 Years and Above	1	0.7
	Not Prefer to Say	20	14.8
Gender affirmative surgery location	Thayamma (Jamaat)	8	5.9

Study place: Transgender clinics in Government and Private Health Facilities of Tamil Nadu for a period of 9 months from February to October with the sample size of 135.

Study Population: Line listing of Transsexuals who had received gender affirmative medical/surgical care was obtained from the Government and private health facilities. Transgender people were contacted in person with the help of the concerned health care provider and a community person who is a part of the Community advisory board. After getting the informed consent from the individual they were recruited under this study.

Sample Criteria: Inclusion criteria: Transgender persons 18 or over (trans men or trans women or non-binary persons) and were willing to provide informed consent for this study were recruited under this study.

Exclusion Criteria: Those who did not provide informed consent will be excluded from the study.

Data Collection: A semi-structured, bilingual, Interviewer administered questionnaire based on WHO-BREF and medical outcomes study SF-36 will be administered to collect the data on the socio-demographic and quality of life.

Data Analysis Plan: Collected data has been entered in MS Excel. Analysis conducted in SPSS 26.0. Categorical variables expressed in frequency and percentages. Chi square test used to find out the association between 2 variables. P value of <0.05 was considered as statistically significant.

Study Outcomes: To study the sociodemographic profile and the social behavior of the study participants.

RESULTS

Table 1 details the participants had their first GAC treatment at varying ages: 54 (40%) individuals were between the ages of 11 to 20, 60 (44.4%) were between the ages of 21 to 30, 1 (0.7%) individual was 30 years of age and older, and 20 (14.8%) participants decided not to answer. Observations reveal that the GAC procedure was performed at a variety of locations for the participants; 5.9% of individuals had it at Thayamma (Jamaat); 19.3% of individuals had it at a government hospital; 1.5% at a government and private hospital; 72.6% at a private hospital; and 0.7% of individuals preferred not to say.

VARIABLES	Frequency (N = 135)	Percentage (%)	
	Government Hospital	26	19.3
	Govt & Pvt	2	1.5
	Private Hospital	98	72.6
	Not Prefer to Say	1	0.7
Types and Experiences of Gender Affirmative Care Among Study Participants			
Different kinds of GAC received so far	Gender-Affirming Hormone therapy	118	87.40%
	Laser Therapy for Hair removal	125	92.60%

VARIABLES	Frequency (N = 135)	Percentage (%)	
	Emasculation through Thaayamma	23	17.00%
	Emasculation through surgery in a clinic/hospital	87	64.40%
	Vaginoplasty	11	8.10%
	Breast Implants	101	74.80%
	Hysterectomy	1	0.70%
	Vaginectomy	3	2.20%
	Mastectomy/Chest Reconstruction	2	1.50%
	Facial Feminization	96	71.10%
	Facial Masculinization	4	3.00%
	Other	5	3.70%
Reason for undergoing GAC	Distress with body (Gender Dysphoria)	118	87.40%
	Pressure from Peers	25	18.50%
	Pressure from Partner	3	2.20%
	Pressure from Guru	18	13.30%
	Ability to earn more money in sex work	50	37.00%
	Other	12	8.90%
Proportion of Side Effects from Gender Affirmative Surgery among Study Participants			
Side effect experienced after gender affirmative surgery	Yes	72	53.3
	No	63	46.7

The participants underwent various forms of GAC procedures: 87.4% of participants underwent gender-affirming hormone therapy; 92.6% underwent laser therapy for hair removal; 17% of participants underwent emasculation through Thayamma; 64.4% underwent emasculation through surgery in a clinic or hospital; 8.1% of participants underwent vaginoplasty; 74.8% underwent breast implants; 0.7% of participants underwent hysterectomy; 2.2% underwent vaginectomy; 1.5% of participants underwent mastectomy/chest reconstruction; 71.1% underwent facial feminization; 3% of participants underwent facial masculinization; and 3.7% underwent some other type of GAC procedure. Observations reveal that the reasons for GAC were varied: 87.4% reported

VARIABLES	Frequency (N = 135)	Percentage (%)	
Kind of Side Effects Experienced by Study Participants in Gender Affirmative Surgeries			
Kind of side effect experienced by victim	Infection	45	59.20%
	Pain	57	75.00%
	Swelling (Lymphedema) in arm after axillary node dissection	5	6.60%
	Formation of hard scar tissue at the surgical site	2	2.60%
	Shoulder pain and Stiffness	20	26.30%
	Numbness from lymph node removal	2	2.60%
	Buildup of blood in the surgical site (Hematoma)	3	3.90%
Hormone Therapy among Study Participants			
Undergone hormone therapy	Yes	27	20
	No	107	79.3
	Not Prefer to Say	1	0.7
Hair Removal Cream Usage among Study Participants			
Cream usage to remove hair from face	Yes	19	14.1
	No	97	71.9
	Not Prefer to Say	19	14.1

having body dysphoria; 18.5% of participants reported peer pressure; 2.2% reported partner pressure; 13.3% of participants reported guru pressure; 37% reported undergoing GAC because it would enable them to make more money from sex work; and 8.9% of participants reported other reasons, 72 (53.3%) of individuals had side effects from their GAC procedure while the rest, 63 (46.7%) had no side effects.

The various side effects that the participants encountered following GAC, 45 (59.2%) reported infection, 57 (75%) reported pain, 5 (6.6%) reported arm swelling following axillary node dissection, 2 (1.5%) of the participants reported hard scar tissue formation at the surgical site, 20 (26.3%) reported shoulder pain and stiffness, 2 (1.5%) of

the participants reported numbness following lymph node removal, and 3 (2.2%) reported blood accumulation in the surgical site. 27 (20%) received hormone therapy, 107 (79.3%) participants did not get hormone therapy, and 1

(0.7%) preferred not to share. 14.1% of the participants used hair removal cream while, 71.9% did not use any hair removal cream and the rest, 14.1% preferred not to say.

Table 2: Facility assessment of Gender Affirmative Surgery among Study Participants

Variables	Frequency (N = 135)	Percentage (%)	
Do you have Pre and Post Counselling facility for the transgender persons who approach you for gender affirmation surgery	Yes	92	68.1
	On Need Basis	26	19.3
	On Call	6	4.4
	Not Applicable	11	8.1
Do you have a team of doctors for conducting gender affirmation surgery (Plastic surgeon, endocrinologist, Psychiatrist)	Yes	103	76.3
	No	15	11.1
	Referral to other centre	14	10.4
	Not Applicable	3	2.2
Where do you admit transgender persons who undergo gender affirmation surgery in your facility	Separate Ward	46	34.1
	General Ward Corresponding to Biological Sex	46	34.1
	General Ward Corresponding to Self-affirmed gender Identity	38	28.1
	General Ward Corresponding to gender given in government ID	2	1.5
	Not Applicable	3	2.2
Who would you prefer to accompany/support your transgender patient after surgery	Parents	11	8.1
	Siblings/Other Relatives	6	4.4

Variables	Frequency (N = 135)	Percentage (%)	
	Guru/Jamaat Leader	102	75.6
	Peer Community	12	8.9
	Partner	1	0.7
	Not Prefer to Say	3	2.2
If the patient is a trans man 18 years or above, would you ask the person to bring their parents/family members to give assent before surgery?	Yes	5	3.7
	No	43	31.9
	Depends	5	3.7
	No Idea	82	60.7
If the patient is a trans woman 18 years or above, would you ask the person to bring their parents/family members to give assent before surgery?	Yes	28	20.7
	No	99	73.3
	Depends	4	3
	No Idea	4	3
Does your facility get informed consent from those who undergo hormone therapy?	Yes	90	66.7
	No	42	31.1
	Depends	3	2.2
Does your facility provide a certificate of medical intervention as per Transgender Rules (2020), if the client has been found to have gender incongruence, but not had hormone therapy or surgery?	Yes	76	56.3
	No	23	17
	Depends	9	6.7
	Not Applicable	23	17
	No Idea	4	3

Variables	Frequency (N = 135)	Percentage (%)	
	Total	135	100
Does your facility provide a certificate of medical intervention as per Transgender Rules (2020), if the client is on hormone therapy but has not had surgery?	Yes	78	57.8
	No	28	20.7
	Depends	9	6.7
	Not Applicable	15	11.1
	No Idea	5	3.7

Table 2 depicts changes before and after the reception of GAC, 91 (67.4%) reported feeling more happy, 10 (7.4%) reported feeling less happy, and the remaining 34 (25.2%) reported no change. 88 (65.2%) of participants felt more approved of by society, 23 (17%) of participants felt less approved of by society, and the remaining 24 (17.8%) felt no difference. 70 (51.9%) of the participants believed they had more sexual opportunities after receiving GAC, 27 (20%) felt they had less, and the remaining 38 (28.1%) felt

Table 3: Changes in Mental and Personal Feelings after Gender Affirmative Surgeries Among Study Participants

Variables	Frequency (N = 135)	Percentage (%)	
Comparing their situation, happiness before and after GAC	More Happy	91	67.4
	Less Happy	10	7.4
	No Difference	34	25.2
Comparing their situation, societal view towards them before and after GAC	With More Approval	88	65.2
	With Less Approval	23	17
	No Difference	24	17.8
Comparing their situation, sex opportunities before and after GAC	I Have More Sex Opportunities	70	51.9
	I have less / Don't Have Sex Opportunities	27	20

Table 3 shows that 68.1% facilities provide pre and post-counselling services for transgender people who came for gender affirmation care, 19.3% provide on need basis, 4.4% does not, and for 8.1% it was not applicable. Observations reveal that 76.3% have a team of doctors for providing gender affirmation care that includes plastic surgeons, endocrinologists, psychiatrists, and more, while 11.1% of the facilities do not have a team of doctors, 10.4% refer to another centre, for 2.2% it was not

Variables	Frequency (N = 135)	Percentage (%)	
Does your facility provide a certificate of medical intervention as per Transgender Rules (2020), if the client has had surgery?	Yes	74	54.8
	No	29	21.5
	Depends	9	6.7
	Not Applicable	16	11.9
	No Idea	7	5.2

there had been no change. 73 (54.1%) of participants believed they had greater work opportunities (sex excluded), 36 (26.7%) felt they had lesser opportunities after receiving GAC, and 26 (19.3%) felt there had been no change. 86 (63.7%) of the respondents reported increased income, 20 (14.8%) of participants were reported decreased income, and 29 (21.5%) of participants were reported no change in income.

Variables	Frequency (N = 135)	Percentage (%)	
	No Difference	38	28.1
Comparing their situation, job opportunities before and after GAC	I Have More Job Opportunities (Excluding Sex)	73	54.1
	I have less / Don't Have Job Opportunities (Excluding Sex)	36	26.7
	No Difference	26	19.3
Comparing their situation, income before and after GAC	I Have More Income	86	63.7
	I have less / Don't Have Income	20	14.8
	No Difference	29	21.5

applicable. 46 (34.1%) of the facilities admit transgender people receiving gender affirmation care at the facility to a separate ward, 38 (28.1%) admit to the general ward in accordance with their self-affirmed gender identity, 2 (1.5%) admit to the general ward in accordance with the gender indicated on their government ID, and for the remaining 3 (2.2%) facilities it was not applicable. When inquired who the facilities preferred for accompanying/supporting individual for a transgender

patient post-gender affirming care, 102 (75.6%) of healthcare workers favour the Guru/Jamaat leader, 6 (4.4%) favour the siblings/other relatives, 11 (8.1%) favour the parents, 12 (8.9%) favour the peer community, 1 (0.7%) prefers the partner, and the rest 3 (2.2%) preferred not to say. In the case of a trans man aged 18 or above, 3.7% of the facilities would recommend the presence of parents/family members to provide assent before gender-affirming care while 31.9% would not recommend it, 3.7% feels that it depends on other factors and the rest, 60.7% do not know. In the case of a trans woman aged 18 or above, 20.7% of facilities would recommend the presence of parents/family members to provide assent before gender-affirming care while 73.3% would not recommend it, 3% feels that it depends on other factors and the rest, 3% do not know.

Regarding those under hormone therapy, 90 (66.7%) of the facilities obtain informed consent, while 42 (31.1%) do not, 3 (2.2%) feel that it depends on other factors.

Table 4: Quality of Life among Study Participants

Variables	Frequency (N = 135)	Percentage (%)	
Do you get the kind of support from others that you need?	Not At All	7	5.2
	Not Much	2	1.5
	Moderately	74	54.8
	A Great Deal	47	34.8
	Completely	5	3.7
How would you rate your quality of life?	Poor	4	3
	Neither Poor Nor Good	48	35.6
	Good	74	54.8
	Very Good	9	6.7
How satisfied are you with your health?	Dissatisfied	4	3
	Neither Satisfied Dissatisfied	43	31.9
	Satisfied	74	54.8
	Very Satisfied	14	10.4
To what extent do you feel that (physical) pain prevents you from doing what you need to do?	Not At All	6	4.4
	A Little	7	5.2
	A Moderate Amount	49	36.3
	Very Much	65	48.1
	An Extreme Amount	5	3.7
	Not Prefer to Say	3	2.2

Observations reveal that in compliance with Transgender Rules (2020), for 76 (56.3%) facilities issue a certificate of medical intervention for clients with gender incongruence who have not undergone hormone therapy or surgery, while for 23 (17%) do not, 9 (6.7%) issue it based on other factors, 4 (3%) do not know if they issue such a certificate and it is not applicable for the rest 23 (17%). In accordance with Transgender Rules (2020), 20.7% of the facilities do not issue such a certificate, 6.7% believe it depends on other factors, 3.7% do not know, and the remaining 11.1% believe it is not applicable and 78 (54.8%) of the facilities issue a certificate of medical intervention for clients who undergo hormone therapy but do not have a GAC surgery. Observations reveal that 78 (54.8%) facilities provide a certificate of medical intervention for patients undergoing GAC surgery in accordance with Transgender Rules (2020); 29 (21.5%) do not provide one, 9 (6.7%) believe it depends on other factors, 7 (5.2%) were unsure, and the remaining 16 (11.9%) say it is not applicable.

Variables	Frequency (N = 135)	Percentage (%)	
How much do you need any medical treatment to function in your daily life?	Not At All	3	2.2
	A Little	9	6.7
	A Moderate Amount	40	29.6
	Very Much	70	51.9
	An Extreme Amount	13	9.6
How much do you enjoy life?	Not At All	6	4.4
	A Little	7	5.2
	A Moderate Amount	37	27.4
	Very Much	66	48.9
	An Extreme Amount	19	14.1
To what extent do you feel your life to be meaningful?	Not At All	5	3.7
	A Little	3	2.2
	A Moderate Amount	40	29.6
	Very Much	65	48.1
	An Extreme Amount	22	16.3
How well are you able to concentrate?	Not At All	4	3
	A Little	4	3
	A Moderate Amount	54	40
	Very Much	63	46.7
	Extremely	10	7.4
How safe do you feel in your daily life?	A Little	11	8.1

Variables	Frequency (N = 135)	Percentage (%)	
	A Moderate Amount	34	25.2
	Very Much	73	54.1
	Extremely	17	12.6
How healthy is your physical environment?	Not At All	1	0.7
	A Little	8	5.9
	A Moderate Amount	55	40.7
	Very Much	55	40.7
	Extremely	16	11.9
Do you have enough energy for everyday life?	Not At All	9	6.7
	A Little	8	5.9
	Moderately	50	37
	Mostly	60	44.4
	Completely	8	5.9
Are you able to accept your bodily appearance?	A Little	7	5.2
	Moderately	48	35.6
	Mostly	71	52.6
	Completely	9	6.7
Have you enough money to meet your needs?	Not At All	3	2.2
	A Little	13	9.6
	Moderately	53	39.3
	Mostly	60	44.4
	Completely	6	4.4
How available to you is the information that you need in your day-to-day life?	Not At All	3	2.2
	A Little	6	4.4
	Moderately	49	36.3
	Mostly	64	47.4
	Completely	13	9.6
To what extent do you have the opportunity for leisure activates?	Not At All	1	0.7
	A Little	9	6.7
	Moderately	51	37.8
	Mostly	63	46.7
	Completely	11	8.1
How well are you able to get around?	Poor	15	11.1
	Neither Poor Nor Good	44	32.6
	Good	68	50.4
	Very Good	8	5.9

Variables	Frequency (N = 135)	Percentage (%)	
How Satisfied are you with your sleep?	Very Dissatisfied	3	2.2
	Dissatisfied	6	4.4
	Neither Satisfied or Dissatisfied	50	37
	Satisfied	68	50.4
	Very Satisfied	8	5.9
How satisfied are you with your ability to perform my/our daily living activities?	Very Dissatisfied	1	0.7
	Dissatisfied	7	5.2
	Neither Satisfied or Dissatisfied	51	37.8
	Satisfied	65	48.1
	Very Satisfied	11	8.1
How satisfied are you with your capacity for work?	Dissatisfied	11	8.1
	Neither Satisfied or Dissatisfied	39	28.9
	Satisfied	76	56.3
	Very Satisfied	9	6.7
How Satisfied are you with yourself?	Very Dissatisfied	2	1.5
	Dissatisfied	8	5.9
	Neither Satisfied or Dissatisfied	46	34.1
	Satisfied	69	51.1
	Very Satisfied	10	7.4
How satisfied are you with your personal relationships?	Very Dissatisfied	3	2.2
	Dissatisfied	9	6.7
	Neither Satisfied or Dissatisfied	35	25.9
	Satisfied	74	54.8
	Very Satisfied	14	10.4
How satisfied are you with your sex life?	Very Dissatisfied	5	3.7
	Dissatisfied	10	7.4
	Neither Satisfied or Dissatisfied	45	33.3
	Satisfied	61	45.2

Variables	Frequency (N = 135)	Percentage (%)	
	Very Satisfied	14	10.4
How satisfied are you with the support you get from your friends?	Very Dissatisfied	3	2.2
	Dissatisfied	9	6.7
	Neither Satisfied or Dissatisfied	44	32.6
	Satisfied	66	48.9
	Very Satisfied	13	9.6
How satisfied are you with the conditions of Your living places?	Very Dissatisfied	2	1.5
	Dissatisfied	11	8.1
	Neither Satisfied or Dissatisfied	44	32.6
	Satisfied	60	44.4
	Very Satisfied	18	13.3
How satisfied are you with your access to Health services?	Dissatisfied	8	5.9

Table 4 shows that, 7(5.2%) of participants thought they were not given the necessary support they needed, 2(1.5%) thought they received little assistance, 74(54.8%) thought they received a fair amount, 47(34.8%) thought they received much of the assistance they required, and the remaining 5 (3.7%) said they received all the assistance they required. Observations reveal that a low quality of life was experienced by 3% of individuals, a good quality of life was experienced by 35.6%, a better quality of life was experienced by 54.8% and a very good quality of life was experienced by 6.7%. 10.4% of participants were extremely satisfied with their health, compared to 3% who felt very unsatisfied, 31.9% who were neither dissatisfied nor satisfied, and 54.8% who were satisfied with their health. Observations reveal that 6 (4.4%) of participants reported having no physical pain, 7 (5.2%) reported having some pain, 49 (36.3%) reported having moderate pain, 65 (48.1%) reported having quite a substantial amount of pain, 5 (3.7%) reported having extreme pain, and the remaining 3 (2.2%) preferred not to report any pain at all. Observations reveal that 3 (2.2%) of participants did not require any medical care daily, compared to 9 (6.7%) who required less, 40 (29.6%) who required a moderate amount, and 70 (51.9%) who required a substantial amount and the rest, 13 (9.6%) needed an extreme amount of medical treatment on a daily basis. Observations reveal that 6 (4.4%) of the participants reported having no enjoyment in life, 7 (5.2%) feel somewhat happy, 37 (27.4%) feel moderately happy, 66 (48.9%) feel quite happy, and the remaining 19 (14.1%) feel extremely happy about their lives. 3.7% thought their life had no meaning at all, 2.2% thought it meant something, 29.6% thought it meant something moderate, 48.1% thought it meant

Variables	Frequency (N = 135)	Percentage (%)	
	Neither Satisfied or Dissatisfied	43	31.9
	Satisfied	66	48.9
	Very Satisfied	18	13.3
How satisfied are you with your transport?	Very Dissatisfied	3	2.2
	Dissatisfied	9	6.7
	Neither Satisfied or Dissatisfied	37	27.4
	Satisfied	69	51.1
	Very Satisfied	17	12.6
How often do you have negative feelings, Such as blue mood, despair, anxiety, Depression?	Never	1	0.7
	Seldom	12	8.9
	Quite Often	74	54.8
	Very Often	47	34.8
	Always	1	0.7

something substantial, and the remaining 16.3% thought it meant something extremely.

In contrast, 4(3%) of participants were able to concentrate little, 54(40%) were able to concentrate moderately, 63(46.7%) were able to concentrate substantially, and the remaining 10(7.4%) were able to focus really well. Observations reveal that 11(8.1%) of participants reported feeling somewhat safe most of the time. 73(54.1%) feel a substantial level of safety, 34(25.2%) feel a moderate quantity, and the remaining 17(12.6%) reported feeling very safe most of the time. 0.7% of participants believe that nothing about their physical surroundings is healthy. 40.7% believe their physical environment is moderately healthy, compared to 5.9% who feel it is slightly healthy, 40.7% believe their physical environment is very healthy, while 11.9% believe it is exceptionally healthy. 5.9% of participants have less energy than they need, and 6.7% believe they do not have enough energy on a daily basis. 37% feel they have a moderate amount of energy, 44.4% believe they have most of the energy they need, and 5.9% feel they have all the energy they need. Observations reveal that 5.2% of participants cannot tolerate their physical appearance to some extent. 6.7% are able to fully accept their physical appearance, 52.6% are able to accept it most of the time, and 35.6% are able to accept it moderately. 2.2% do not make enough money to cover their basic expenses. 9.6% of participants have little money, 39.3% have a moderate amount of income for daily needs, 60 (44.4%) participants have a significant amount of income for daily needs, and 6(4.4%) have all the income they need. Observations reveal that 3 (2.2%) participants believe they never get all the knowledge they require on a daily basis, although 6(4.4%) believe they get very little. 13(9.6%) believe they obtain all the knowledge

they require on a daily basis, 64(47.4%) believe they receive most of it, and 49(36.3%) believe they receive a reasonable amount. Observations reveal that 1(0.7%) participant believe they have little opportunity for leisure activities, although 9(6.7%) think they have a limited number of opportunities. 46.7% feel they have most of the opportunities, 37.8% have a moderate quantity, and the remainder, 8.1% of respondents believe they have majority of the opportunities for leisure time. 11.1% of participants has poor mobility, 32.6% has neither poor nor good mobility, 50.4% has good mobility, and the remaining 5.9% has very good mobility. 5.9% of participants were extremely satisfied with their sleep, whereas 2.2% were very dissatisfied, 4.4% were somewhat dissatisfied, 37% were neither satisfied nor unsatisfied, and 50.4% were satisfied with their sleep. 8.1% of participants were extremely satisfied with their ability to perform daily activities, compared to 0.7% who are very dissatisfied, 5.2% who are mildly dissatisfied, 37.8% who are neither satisfied nor dissatisfied, and 48.1% who are moderately satisfied.

Observations reveal that the percentage of people who are unhappy with their job capability were 11 (8.1%), followed by 39 (28.9%) who were neither satisfied nor unsatisfied, 76 (56.3%) who were satisfied, and 9 (6.7%) who were very satisfied. 69 (51.1%) were content with themselves, 8 (5.9%) of participants were mildly dissatisfied, 2 (1.5%) were very dissatisfied, 46 (34.1%) were neither satisfied nor unsatisfied, and 10 (7.4%) were very satisfied. Observations reveal that 14 (10.4%) were extremely satisfied with their personal connections, compared to 3 (2.2%) who were very dissatisfied, 9 (6.7%) who were somewhat dissatisfied, 35 (25.9%) who were neither satisfied nor dissatisfied, and 74 (54.8%) who were satisfied. Observations reveal that 5 (3.7%) of participants were extremely unhappy with their sexual lives, compared to 10 (7.4%) who were unhappy, 45 (33.3%) who were neither happy nor unhappy, 61 (45.2%) who were content, and 14 (10.4%) who were extremely satisfied. Observations reveal that 1.5% of participants were

Table 5: Association between various variables and among Transgenders

S. No.	Variables	chi square Value	Asymptotic Significance (2-sided)
1.	Association between age with engagement in commercial sex	13.869	0.031
2.	Association between age with safer sex practice before GAC	27.404	0.026
3.	Association between educational status and the age when they felt their gender identity to be different from peers	44.048	0.008
4.	Association between educational status with age they came out from their family/house	64.337	0.000
5.	Association between sex assigned at birth with engagement in	8.589	0.014

extremely displeased with their living conditions, 8.1% are somewhat dissatisfied, 32.6% were neither satisfied nor unsatisfied, 44.4% were satisfied with themselves, and 13.3% were very satisfied with their living conditions. 2.2% of participants were extremely unhappy with the help they get from their friends; 6.7% were only moderately unhappy; 32.6% were neither extremely happy nor poorly happy; 48.9% were content with the help they get from their friends; and 9.6% of participants were extremely happy. Observations reveal that a total of 18 (13.3%) participants were extremely satisfied with their access to health services, compared to 8 (5.9%) who were dissatisfied, 43 (31.9%) who were neither content nor dissatisfied, and 66 (48.9%) who were satisfied. Observations reveal that 3 (2.2%) of participants were extremely unhappy with their transportation, compared to 9 (6.7%) who were unhappy, 37 (27.4%) who were neither happy nor unhappy, 69 (51.1%) who were content, and the remaining 17 (12.6%) who were extremely satisfied. 1 (0.7%) participants reported never experiencing any negative emotions, compared to 12 (8.8%) who experienced them infrequently, 74 (54.8%) who experienced them frequently, 47 (34.8%) who experienced them more frequently, and 1 (0.7%) who experienced them constantly.

Associations between the various study variables were given in table 5. There is a statistically significant association between age and engagement in commercial sex. It can also be seen that majority participants who are in the earlier age groups of 21 to 30 years engage more in commercial sex, 39%, as compared to the other age groups. Most participants in the earlier age group of 21 to 30 years practice safe sex methods more 25%, compared to the other age groups. It can also be seen that most participants that studied till the 10th standard felt their gender identity to be different their peers between the ages of 16 to 20 years, 16% and most participants that studied till the 10th standard came out from their family/house between the ages of 16 to 20 years, 15%. The present study observed that most participants that were assigned the male sex at birth did engage in commercial sex, 75%.

	commercial sex		
6.	Association between the sex assigned at birth and the frequency of sexual intercourse in a week prior to receiving GAC	26.824	0.000
7.	Association between self-affirmed gender with age when they felt their gender identity to be different from peers	28.070	0.000
8.	Association between self-affirmed gender with coming out from their family/house	9.238	0.010
9.	Association between gender on legal documents with age when they felt their gender identity to be different from peers	15.905	0.044
10.	Association between	14.549	0.001

	gender on legal documents with coming out from their family/house		
11.	Association between relationship status with age when they felt their gender identity to be different from peers	185.751	0.000
12.	Association between relationship status with whom they were interested in sexual activity with prior to receiving GAC	74.641	0.000
13.	Association between duration of current relationship with whom they were interested in sexual activity with prior to receiving GAC	28.487	0.005
14.	Association between average daily income with engaging in commercial sex	33.782	0.000
15.	Association between employment status with coming out from their family/house	15.721	0.000
16.	Association between employment status with where facility admit transgenders who undergo GAC	21.624	0.006
17.	Association between residence with whom they were interested in sexual activity with prior to receiving GAC	24.272	0.002
18.	Association between residence with details about the partners	18.932	0.004
19.	Association between age of first sexual encounter with age they feel their gender identity different from peers	97.688	0.000
20.	Association between age of first sexual encounter with whom they were interested in sexual activity with prior to receiving GAC	37.353	0.001
21.	Association between physical and psychological violence experienced with age they feel a different gender identity from peers	90.164	0.000
22.	Association between engagement in	160.599 ^a	0.000

	commercial sex with hormone therapy		
23.	Association between who they were interested in sexual activity with prior to receiving gender affirming care with where gender affirming surgery was done	90.164	0.000
24.	Association between hair removal from the face with details about the partners	32.785 ^a	0.000
25.	Association between practicing safe sex before receiving GAC with using cream to hair removal from the face	56.727 ^a	0.000
26.	Association between sexual intercourse frequency with hormone therapy	23.856 ^a	0.002
27.	Association between sexual intercourse frequency with using cream for hair removal from face	23.856	0.000
28.	Association between first GAC procedure with family members support	27.523 ^a	0.001
29.	Association between family members support with side effects after GAC	12.671 ^a	0.005
30.	Association between sex opportunities before GAC & after GAC with support transgender after surgery	26.174 ^a	0.004
31.	Association between happiness before GAC & after GAC with family support	19.554 ^a	0.003
32.	Association between societal approval before and after GAC with undergone hormone therapy	15.058 ^a	0.005
33.	Association between gender affirmation surgery with healthy physical environment	33.198 ^a	0.001
34.	Association between bringing family members to give consent before surgery with being able to concentrate	32.790 ^a	0.001

35.	Association between physical environment with bringing family members to give consent before surgery	30.583 ^a	0.002
36.	Association between satisfaction with sex life and facility for certification of medical intervention	37.272 ^a	0.002

There is statistically significant association between the sex assigned at birth and the frequency of sexual intercourse in a week prior to receiving GAC. It can be seen that most participants that were assigned the male sex at birth engaged the most in sexual intercourse, 5 times a week 43%. Most participants that self-affirmed themselves as transgender felt their gender identity to be different than their peers in the ages of 16 to 20 years, 37% and most participants that self-affirmed themselves as transgender did come out from their family/house, 74%. Most of the participants who have transgender on their legal documents felt their gender identity to be different from their peers in the ages of 16 to 20 years, 36%. It can also be seen that most participants who have transgender on their legal documents did come out from their family/house, 76%.

There is a statistically significant association between relationship status and the age when the participants felt their gender identity to be different from their peers. It can also be seen that most participants that are single felt their gender identity to be different than their peers in the ages of 16 to 20 years, 16%. Most participants who were single were interested in sexual activity with men prior to receiving gender-affirming care, 36%. There is a statistically significant association between the duration of the current primary relationship and who the participants were interested in sexual activity with prior to receiving gender-affirming care. It can also be seen that most participants that were not in a relationship/not willing to answer were interested in sexual activity with men prior to receiving gender-affirming care, 38%.

There is a statistically significant association between average daily income and whether the participants engaged in commercial sex. It can also be seen that most participants with the average daily income of Rs.501 to Rs.1000 did engage in commercial sex, 41%. It was observed from the present study that most participants that are unemployed did come out from their family/house, 54%. There is a statistically significant association between employment status and where the facilities admitted transgender persons who undergo gender affirming surgery. It can also be seen that most participants were unemployed were admitted in the general ward corresponding to their biological sex by the facilities, 24%. Most participants that lived in urban residence felt their gender identity to be different than their peers below the age of 5, 15% and most participants that lived in semi-urban residence had partners that were with multiple people, 24%. The present study observed most participants who had their first sexual encounter in the ages of 16 to 20 years also felt their gender identity to be different from their peers between the same ages, 25%. It can also be seen that most participants who had their first sexual encounter in the ages of 16 to 20 years were interested in sexual activity with men prior to receiving gender-

37.	Association between feel safety in your daily life with facility for certification of medical intervention	30.346 ^a	0.002
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affirming care, 34%. It can also be seen that most participants who did engage in commercial sex did not undergo hormone therapy, 67%.

There is a statistically significant association between whether the participants experienced physical and psychological violence with an intimate partner previously or present and the age when the participants felt their gender identity to be different from their peers. It can also be seen that most participants that did experience physical and psychological violence felt their gender identity to be different from their peers in the ages of 16 to 20 years, 24%.

Most participants who were interested in sexual activity with men prior to receiving gender-affirming care got their surgery done in a private hospital, 67%. It can also be seen that most participants whose partner were with multiple people, those participants did not use any cream to remove hair from their face, 50% and most participants who sometimes practiced safer sex methods prior to receiving gender-affirming care did not use any cream to remove hair from their face, 32%. The most participants who had sexual intercourse 5 times a week did not undergo hormone therapy, 38% and who had sexual intercourse 5 times a week did not use any cream to remove hair from their face, 38%.

There is a statistically significant association between age when the participants undergo their first GAC procedure and whether the facilities would ask an 18+ trans man to bring their parents/family members to give assent before surgery. In the table 5 the significant association between the change in sex opportunities before and after receiving GAC and who the facilities would prefer to accompany/support their transgender patient after surgery were given. It is also given the statistically significant association between the change in happiness before and after receiving GAC and whether the facilities would ask an 18+ trans woman to bring their parents/family members to give assent before surgery.

There is a statistically significant association between societal approval before and after receiving GAC and whether the facilities get informed consent from the participants that undergo hormone therapy and whether the facilities have a team of doctors for conducting GAC surgery and the healthiness of the participants' physical environment. The significant association between whether the facilities would ask an 18+ trans man to bring their parents/family members to give assent before surgery, how well the participants are able to concentrate, and the healthiness of the participants' were shown in table 5.

Table 5 shows that there is a statistically significant association between whether the facilities provide a certificate of medical intervention as per the transgender rules (2020) if the patient has been found to have gender incongruence but not had hormone therapy or surgery and the participants' satisfaction with their sex life [9]. There is

a statistically significant association between whether the facilities provide a certificate of medical intervention as per Transgender Rules (2020), if the client has had surgery and how safe the participants feel in their daily life [9].

DISCUSSION

This study explores the complex experiences of people receiving gender-affirming care, offering a thorough examination of the different aspects that influence their life. The sample's demographic makeup shows a notable presence of people living in cities between the ages of 21 and 30 who were primarily assigned male at birth.

In the context of gender-affirming care, both the current study and the work of Sorbara et al. highlight the critical phases of gender identity validation and social transition [10]. Participants in our study subconsciously negotiated these stages, which is consistent with Sorbara et al.'s findings that Younger Presenting Youth (YPY) experienced social transition earlier than Older Presenting Youth (OPY) and identified gender incongruence earlier [10]. The significance of comprehending the processes of gender identity recognition and social transition across varied populations seeking gender-affirming care is highlighted by this synchronicity. Both studies emphasize how important it is to recognize and understand the variety of experiences that exist among transgender and gender-diverse groups.

The pursuit of gender-affirming care, driven by body dysphoria, involves procedures like laser therapy and hormone treatment. Despite reported side effects, post-receipt of care correlates with increased happiness, societal approval, and improved economic opportunities. Factors like disclosure and age were explored, providing essential insights into transformative journeys. Findings align with studies on transgender youths, emphasizing the need to address mental health challenges. The present study underscores tailored interventions for holistic well-being during gender-affirming care, offering a comprehensive perspective on enhancing mental health.

We also expanded upon the foundational work laid by a study from Lee and Rosenthal, 2022 investigating mental health outcomes among transgender and gender diverse (TGD) youth [11]. Echoing Lee and Rosenthal's discoveries, our research reveals an elevated prevalence of mood disorders, anxiety, depression, and suicidal tendencies in this demographic. However, we contribute a forward-looking perspective by examining the transformative impact of gender-affirming medical care on mental health. Our findings emphasize the crucial role of family support, aligning with Lee and Rosenthal's insights. TGD youth, especially with supportive families, exhibit improved mental well-being, emphasizing the positive influence of family dynamics [11]. The results underscore the significance of comprehensive strategies, combining family support and gender-affirming care, to enhance the mental health of TGD youth.

The final component of the study evaluates healthcare facility practices, addressing counseling availability, admission protocols, and preferences for accompanying individuals' post-gender-affirming care. This aspect highlights the need for culturally sensitive and standardized approaches within healthcare settings that cater to the unique needs of transgender individuals.

CONCLUSION

The findings of this study underscore the transformative impact of gender-affirmative care in cultivating positive outcomes for transsexual individuals across various dimensions of well-being and satisfaction. Despite navigating unique challenges associated with gender identity and healthcare access, a notable proportion of transsexual participants reported encouraging experiences across several domains. Primarily, the study revealed a significant level of satisfaction with the support received, emphasizing the pivotal role of gender-affirmative care practices in fostering a supportive and inclusive healthcare environment. This underscores the importance of acknowledging and affirming individuals' gender identities, which contributes to building trust and rapport between healthcare providers and transsexual patients, ultimately enhancing overall well-being.

Furthermore, a substantial number of participants expressed a commendable quality of life, ranging from decent to very good, highlighting the positive impact of gender-affirmative care on their holistic well-being. This encompasses various aspects such as physical health, mental well-being, social connectedness, and overall life satisfaction, reflecting the comprehensive nature of gender-affirmative care interventions. Additionally, the study revealed positive ratings in key areas such as health satisfaction, emotional resilience, personal relationships, and access to healthcare services among transsexual individuals. This underscores the importance of tailored healthcare approaches that address the unique healthcare needs and experiences of this population, ultimately leading to improved health outcomes and enhanced quality of life.

Moreover, transsexual participants reported positive experiences in terms of energy levels, ability to perform daily activities, and satisfaction with sleep quality, indicating the beneficial impact of gender-affirmative care on physical functioning and overall vitality.

By embracing inclusive and affirming healthcare approaches, healthcare providers can create environments that empower transsexual individuals to thrive and lead fulfilling lives, ultimately contributing to the advancement of transgender healthcare and the promotion of health equity.

In conclusion, this research provides a rich tapestry of insights into the lives of individuals undergoing gender-affirming care. The findings underscore the complexity of their experiences, emphasizing the need for tailored interventions that address diverse aspects of their lives, from substance use and abuse experiences to sexual health and mental well-being. This study contributes valuable knowledge to the evolving field of gender-affirming care, paving the way for more targeted and inclusive approaches that enhance the holistic well-being of transgender individuals.

RECOMMENDATIONS

Firstly, in terms of further research directions, it is imperative to conduct longitudinal studies to elucidate the temporal dynamics of well-being and to explore potential causal relationships between different factors and outcomes.

In the realm of healthcare interventions, tailored pain management programs should be developed and implemented to address the diverse needs of individuals experiencing varying levels of pain. Furthermore,

initiatives aimed at enhancing access to medical care, particularly for those requiring a substantial amount of daily medical treatment, such as telemedicine or community health programs, should be prioritized. Comprehensive mental health support services, including counseling, therapy, and stress management programs, are also essential to address emotional well-being and resilience.

Social support and community engagement play a pivotal role in promoting well-being. Additionally, programs aimed at improving financial literacy and stability, including budgeting workshops, financial planning assistance, and access to resources for basic needs, are crucial in alleviating financial stressors. In the context of workplace interventions, the implementation of workplace wellness programs focusing on enhancing job satisfaction, stress management, and work-life balance can significantly improve overall well-being among employees.

Environmental and infrastructure improvements are essential considerations in promoting well-being, efforts to enhance access to education and knowledge resources, particularly for individuals reporting dissatisfaction with their ability to obtain daily knowledge, should be prioritized. Community-based educational programs addressing topics such as health literacy, financial literacy, and personal development can empower individuals with necessary skills and knowledge to improve their well-being.

Advocacy for policies aimed at addressing systemic inequalities and barriers to well-being, including healthcare access, education, employment opportunities, and social support programs, is critical. Collaboration with policymakers to integrate well-being indicators into policy development and decision-making processes ensures that policies are designed to promote holistic well-being and address the diverse needs of individuals across various domains of life.

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