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Practices for accessing hormone therapy in male to female transgenders in Maharashtra, India

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ABSTRACT

Purpose: Hormone Replacement Therapy (HRT) is important for gender reassignment procedures for transgender persons in India. The study explores practices of male-to-female transgenders to access HRT for feminization procedures in Maharashtra, India.

Methods: The first participant for this qualitative exploratory study was recruited from a community-based organization. Further participants were recruited using snowball sampling until data saturation was reached. In-depth interviews (IDI) were conducted over video platforms after written/audio-visual consent of the participants. The recorded interviews were transcribed into verbatim. The data, after each interview, were analyzed through thematic content analysis using inductive approach. The prevalent practices were identified from relevant phrases, sentences, and terms of the transcripts and were labeled and coded.

Results: The study reported lack of acceptance and support from family for HRT. Some participants were abandoned or chose to run from their homes and undergoing transition without family support. Participants reported accessing HRT over-the-counter and practiced self-medication due to lack of affordability, scarcity of trained doctors and persisting stigma and discrimination at healthcare facilities. Those who self-medicated were following similar drug regimens administered to their peers or self-adjusted doses on the basis of physical achievements. Participants of *Hijra* kinships were dependent on their leaders to avail HRT services.

Conclusions: There is a need to develop standard HRT guidelines for feminization procedures and include HRT services in health programs. There is a necessity to train healthcare professionals and establish a center of excellence for these procedures in Maharashtra.

1. Introduction

Transgender persons are disadvantaged throughout various facets of socio-cultural and medical aspects in the society[1] This neglect that stems out is a transgression contributed by myriad practices in contemporary societies, associating this population as a vulnerable cohort.[2] However, there is a recent increase in the interest to explore the life of transgenders and their social standing, inclusion, experiences, perspectives, and healthcare needs.[3] 'Transgenders' are individuals whose biological sex does not orient with their gender identity and expression.[4,5] In Indian sub-continent, transgenders have different taxonomy and hierarchy elaborated in Table 1.[6,7] It is a blanket term that includes various individuals who are either intersex, male who transition to female, female who transition to a male, eunuch, etc. Male to female transgenders are assigned 'male' sex at birth but identify themselves as a woman.[8,9]

Gender non-conformity refers to the degree to which a person's role or gender identity expression deviates from the cultural norms prescribed for individuals of a particular gender.[10] Transgender people face an internal conflict between their sexual and gender identity.[11] Hormone replacement therapy, in this context, means to suppress the biological hormones that are released by the body and replace them externally with the hormonal drugs for desired change/transition.[12] 'Gender dysphoria,' in contrast, is a medical condition where the

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Table 1
Indian sub-continent transgender community hierarchy taxonomy.

Terms	Description
Hijra Community/ Kinnar Samaj	A group of transgenders who have formed a clan of their own and lives in a kinship following specific customs and traditions.
Hijra	Individuals who belongs to *Hijra Community/Kinnar Samaj*
Guru Maa	The local head of the *Kinnar Samaj* staying in the house of transgenders.
Naik	The head of the *Kinnar Samaj* staying in the particular vicinity and main decision making person in a particular *Hijra* clan.
Eunuch	Castrated transgender individuals
Moorat	New transgenders in the *Hijra community*

individual gets traumatized in a body of the undesired sex.[9,13]

Generally, the treatment for gender dysphoria begins with certification from a psychiatrist following initiation of Hormone Replacement Therapy (HRT) by an endocrinologist/trained physician.[14,15] After one year of HRT, the transgender is eligible for Sex Reassignment Surgery (SRS).[15,16] SRS is usually tailor-made to meet the needs of individual patients.[17] HRT may be considered as an essential part of SRS. The importance of sex reassignment surgery lies in the fact that it improves the quality of life of the individual.[16,17]

Gender transition procedures has been associated with improvement in the quality of life of these individuals.[18,19] Studies globally have reported problems faced by transgenders undergoing transition, including lack of authentic and proper information, emotional barriers, availability, affordability of services, etc.[20,21] There is scarcity of scientific literature on gender transitioning services in the context of Maharashtra.

This study intends to understand the practices related to HRT and feminization procedures in male to female transgenders in Maharashtra, India.[22]

2. Subjects and method

This qualitative exploratory study was conducted among male-to-female transgender population in Maharashtra, India, between 22nd-December-2020 and 1st-February-2021. The ethical clearance for the study was taken from Institutional Ethical Clearance Committee, Bharati Vidyapeeth (Deemed to be University) Medical Hospital, Pune. (BVDUMC/IEC/93).

The study participants were recruited through snowball sampling technique according to the following inclusion criteria: 1) individuals who self-identify themselves as male-to-female transgender; 2) adults above the age of 18 years and, 3) have either taken HRT in the past or currently taking feminization procedures. The exclusion criteria used were: 1) individuals who opted out of the study and; 2) those who did not provide informed consent to record their interview. The initial participants were recruited through a community-based, non-profit organization working for transgenders in Maharashtra. Other subjects were recruited through references provided by these participants.

Detailed Participant Information Sheet was provided to each participant; consent was obtained through written or audio-visual means for their participation and recording their interviews. A semi-structured questionnaire and guidelines for In-Depth Interviews (IDIs) were developed after consultation with the experts and community representatives. A person from the community trained in qualitative research and research ethics conducted these interviews. The study was reported In accordance with the COREQ checklist.

The IDIs were conducted and recorded over audio-video calls in the vernacular language of the participants (English, Hindi, or Marathi). These recorded calls were converted into transcripts. The transcripts that were either in Hindi or Marathi were converted into English. The interim data analysis was done with the help of thematic content analysis using an inductive approach. The current practices were identified from the relevant terms, phrases, sentences, and segments of the transcripts and were labeled and coded. Participant recruitment was done till the data saturation was achieved.

3. Results

The data saturation was reached after the recruitment of 29 participants. 13 participants belonged to the *Kinnar* kinship however, 16 participants did not recognize themselves as a part of the Kinnar kinship but rather a part of the society. The duration of each interview was 45–60 min. The age of the participants ranged from 18 to 41 years. The participants were from the cities, viz., Mumbai, Pune, Aurangabad, Nashik, Kolhapur, Solhapur, Thane, and Navi Mumbai.

The interviewed participants depended on prostitution, begging and '*badhai*' (14 participants) for a living. Others depended on jobs in multinational companies and government sectors (8 participants), income from parents (2 participants) and unskilled jobs such cooking, house maid, sweeper and delivery person (4 participants). 1 participant was unemployed reasoning the pandemic.

The educational status of participants was: (a) uneducated (15 participants); (b) graduate (7 participants) (c) post-graduate (5 participants) (d) doctorate (2 participant). The monthly income of the participants is: (a) nil – INR 10,000 (13 participants); (b) INR 10,000–INR 20,000 (8 participant); (c) INR 30,000–INR 40,000 (4 participants) and; (d) INR 40,000–INR 50,000 (3 participants). 1 participant didn't disclose their income.

Table 2 tabulates the data as per the categorization of participants into those of the 'Kinnar Kinship' and those not a part of it. (see Table 2).

3.1. Motivation & reasons for transition

Most participants reported the 'inner will/urge/desire to transform into a female body' as their 'driving force' to undergo gender transition. A participant (IDI – 2) mentions, "*I had extreme desire to transform. I am a woman in a man's body. This needed rectification.*" The participants also reported constant feelings of hatred for their male genitals.

3.2. Sources of information

The legitimacy and precision of the information and its source has played an important role for transition. The participants reported accessing information from specific websites and search engines (such as Google, yahoo). No clear guiding path for transitioning was available on these websites. The participants further informed that the information available on these sources is very generic and mostly related to the uses and side-effects of the drugs and not about guidelines on HRT for gender transformation. The participants also reported getting information through promotional messages or advertisements on social media and

Table 2
Demographics of the interviewees.

Demographic Details	Kinnar Kinship participants	Participants who did not recognize themselves as a part of the Kinnar Kinship
Age	18–41	25–39
Income Level	Nil – Rs. 50000	Rs. 10000 – Rs. 50000
Cities	Mumbai, Pune, Aurangabad, Nashik, Kolhapur, Solhapur, Thane, Navi Mumbai	Mumbai, Pune, Thane, Navi Mumbai, Kolhapur
Employment	Prostitution, begging, *Badhai* (religious offerings received by Hijras)	Jobs in Multinational companies and Government sectors, unemployed, income from parents, unskilled jobs (cooking, house maid), Prostitution
Education	No formal education, bachelors	No formal education, bachelors, masters, doctorate

dating apps.

Those transgenders who live in a social kinship as *kinnars* reported to receive this information from their affiliates of the *kinnar samaj*. This source of information is mainly from the traditional practices of the *Naik or Guru Ma* (head). On the contrary, those who are not part of this social hierarchy have accessed this information from the internet or from the prescription pattern of their transgender friends who are taking HRT. A participant (IDI – 7) states, *"I would never be able to transform if Guru Ma would not have given me those white medicines."* Such individuals have no idea of their medication and simply use the drugs supplied by the local pharmacists.

Some educated participants had obtained information from the published literature and were observed to have good knowledge about the therapy.

3.3. Procedure for hormone replacement therapy

The participants reported using drugs either prescribed by the registered medical practitioner (RMP) or through unprescribed means. The medications used during HRT by the participants are:

A) Male hormone blocker (includes Spironolactone and Bicalutamide): Bicalutamide was not prescribed by any RPM; instead, it was taken by the participant through self-medication. A participant (IDI – 22) states, "*… so then I came across this Bicalutamide … doctor was not changing the medicines even after the side-effects … so I switched to Bicalutamide on my own.*"
B) Artificial female hormones (including estradiol valerate, Ethinyl estradiol, progesterone, estrogen): The participants reported various drugs prescribed as a substitute for female hormone.
C) Gonadotropin-Releasing hormone (GnRH) (includes Leuprorelin): Those participants taking HRT under supervision reported the use of these drugs.

Finasteride was given to participants experiencing hair loss during transition. There were participants who did not know anything about the drugs prescribed to them. Some of these patients reported having faith in the RMP for their transition.

3.4. Medical supervision

There were certain participants who reported taking HRT under medical supervision, and there were other sets of participants who underwent HRT without any supervision. Unaffordability, absence of RMP trained on the issue, and bad experiences with RMP were the prime reasons mentioned for the absence of supervision. The monthly cost of HRT reported was between INR 1000–3000/person. Unaffordability has been cited as a common reason for choosing unsupervised therapy.

Some participants also reported the absence of a trained RMP in the area as a reason for choosing unsupervised therapy. Some participants avoided supervision due to their bad experiences with the RMP. Few participants expressed their desires for supervision due to health hazards associated with unsupervised treatment. Some of the participants who were initially not under supervision, later approached an RMP for the same reason. A participant (IDI – 13) states, *"Some of my friends died by some liver and kidney problems during transition. I got frightened, then chose supervision … "*. The study also involved participants who had begun HRT during adolescence. Some of these participants reported support from their parents for transition.

The choice of a physician was based on the recommendation of a transgender friend or a transgender website. Few participants also reported the use of the 'hit and trial' method to approach an endocrinologist. The choice of these endocrinologists is either random or based on internet reviews or the cost per consultation (affordability).

3.5. Support for and during transition

Community support was reported from the queer organizations and friends from the LGBTQ community/*Kinnar Samaj*. Financial aid was reported from the LGBTQ organization in the form of jobs that were reserved in the organization primarily for the members of the community. A participant (IDI -17) states, *"The organization does not pay me well … but the emotional* support *they gave me to face the world is enough for me"*. Few participants claimed to derive their emotional and financial support from their parents. Many participants reported the absence of any support during transition and undergone transition unescorted. Participants who reported a lack of financial help from their parents have earned money to support their transition through prostitution, odd jobs, or beggary.

3.6. Procurement of medications

Community pharmacy was reported as the primary avenue to purchase these drugs. A participant (IDI – 7) states, *"I have a fix with a pharmacist. He gives me the medicine without any prescription …"* Those who chose online pharmacy reported the experiences with community pharmacy as 'not comfortable,' 'shameful,' or 'judgmental.' Those who procured drugs through online platforms did not always require a prescription.

Some participants reported RMP's non-supervision as a choice and hence taken HRT over-the-counter. Certain participants believed that self-medication is the only approach and therefore was correct. These participants reported no awareness of the WPATH guidelines or HRT as a process for transition. Certain participants have claimed to initially take HRT over-the-counter to experience their transgenderism. A participant (IDI – 1) stated, *"I tried KLM (pregnancy termination drug) so that I could know what is it to feel like a woman before I transition, but it didn't work."* Few participants also reported procurement of HRT drugs from the hospital pharmacy.

3.7. Management of side-effects

Kinnar Samaj participants reported that the inner desire and strength were enough for transition, and no alternate help was used to curb the side-effects.

The common practices reported were talking to friends, meeting people, keeping oneself busy on the phone/internet/work, diary-writing, self-talking, long drives, and walks.

Some participants reported that on-time doses helped them overcome the side-effects. However, certain participants claimed that they would stop the doses for several days (without doctor's advice) to recover from side-effects.

Use of antidepressants were reported by participants supervised by RMP when the side-effects were 'intolerable.' A couple of participants reported opium addiction during their transition. A participant(IDI – 25) disclosed, *"I used to take brown sugar a couple of times a day to overcome the side-effects"*

Not all participants reported physical side-effects. Participants reported the use of allopathic drugs after consultation with the endocrinologist/RMP. Home remedies/Ayurvedic medications were also used to tackle side-effects.

3.8. Achieved physical changes

Participants reported changes such as an increase in the breast size, redistribution of the body fat to thighs and/or hips, decreased body hair, changed skin texture, voice, jawline, and facial features. Participants also reported the visibility of collar bone and reduction in testicles size.

3.9. Surgical interventions

Removal of male genitals was done through castration or sex reassignment surgery. Those participants who could not undergo any surgery developed a habit to avoid looking at their genitals. Participants with unhappy breast size were recommended breast augmentation surgery. Other surgeries reported were penile inversion vaginoplasty or orchiectomy.

The themes, sub-themes and codes of the analysis are mentioned in Table 3.

4. Discussion

The study attempts to highlight the practices prevalent in male-to-female transgenders in Maharashtra to avail HRT necessary transitioning into the desired gender. Male genitals and secondary sexual characteristics have been responsible for a sense of disgust and self-hatred amongst transgender persons. This compromises their mental peace and wellbeing (gender dysphoria) and has motivated them to explore ways for gender transition. Moreover, the success stories from peers have inspired to rectify *'their situation'* with *'mere suffering for a limited period'*.[23]

The study reported using a range of therapies with or without medical supervision to achieve desired body changes. For example, though the RMP did not prescribe Bicalutamide, its use has been reported due to its efficacy. Similarly, GnRH has been documented to escalate the efficacy of HRT.[24,25] However, its use was only reported in patients who were under medical supervision. Adequate supervision from a trained RMP has been proven to be the gateway for a safe and effective gender transition. Nonetheless, this study reported the scarcity of doctors who are trained to provide these services.[26]

Moreover, these services have been reported to fall beyond the affordability of the population. The quibbling attitude of the healthcare providers further prevents the community from availing these services under supervision.

Lack of trust in the RMP and intense desire to achieve quick changes has led to self-dose adjustments citing the reasons as 'dose was not enough or they were on 'the same dose since long.' A participant (IDI – 29) states, *"I increased my dose because the size of my breast became stagnant. I understood the dose needs to be increased."* In some situations where the dose has been increased either by observing another transgender friend or by the opinion of another transgender friend. These practices are hazardous for the patients and may lead to death due to nephrotoxicity, hepatotoxicity, etc.[27] There are instances where the participants have researched over the internet for the right time to increase the dose of HRT. This showed that the participants were curious to get information about their medications. This approach has been proven to better than to be utterly clueless about the therapy.[28]

Those individuals who were supported by their families during adolescence experienced a smooth transition under supervision. However, those abandoned/not supported by their families reported harsh experiences during the transition. Lack of parental support hinders the physical transformation and affects the psychological well-being of the transgender child, as reported in other studies.[29,30] The emotional support is predominantly extended by peers and community-based organizations in this study. The support from the LGBTQ community has been reported to help transgenders during transition in the absence of family support.

Community pharmacies were the primary source for procurement of medications by the *Kinnar Samaj* participants and participants without prescriptions. Some of the participants who did not have a prescription procured the hormones from their friends who had a prescription or a 'fix with the pharmacist.' The stances of self-medication were based on lack of affordability to access HRT. Unsupervised practices are seen in the community due to this roadblock. The participants from *Kinnar Samaj* were not under supervision and therefore underwent HRT under

Table 3
Themes, sub-themes and codes.

Themes	Sub-themes	Codes/phrases/terms
Driving forces and motivation for the use of hormone	Motivation & reasons for transition	a) *Inner will/desire to transform into a female body* b) *Gender dysphoria* c) *Feeling of disgust for their male body & genitals* d) *Refusal to accept male secondary sexual characteristics (such as beard, rough skin)* e) *Success stories from the community*
Sources and precision of information	Sources of information	a) *Specific websites* b) *Internet search engines* c) *Promotional messages on social media and dating apps* d) *Peers of the Kinnar Samaj*/ Guru Ma*/Naik** e) *Friends of the transgender community* f) *Literature*
	Level of awareness/ knowledge of the drugs/ biologicals being consumed	a) *Very precise knowledge* b) *Slightly aware only about the uses* c) *Unaware*
Hormone replacement therapy	Drugs used pre-SRS (prescribed)	1) *Male hormone blocker* a) *Spironolactone* b) *Cyproterone acetate* 2) *Female Hormone* a) *Estradiol valerate* b) *Progesterone* 3) *Gonadotropin-releasing hormone* a) *Leuprorelin* b) *Finasteride* 4) *Don't know*
	Drugs used for HRT (unprescribed)	a) *Spironolactone (100-*200 mg*)* b) *Estradiol valerate* c) *Ethinyl estradiol* d) *Bicalutamide* e) *Ethinylestradiol* f) *Levonorgestrel* g) *Progesterone*
	Drugs used post-SRS (prescribed)	a) *Estradiol valerate* b) *Progesterone* c) *Don't know*
Medical supervision	Choice of physician	a) *Based on the recommendation of trans friends/trans-friendly website* b) *Based on experience* c) *Internet reviews* d) *Randomly chosen* e) *Based on affordability*
	Reasons for supervision during HRT	a) *Health/side-effects as a significant concern* b) *Parental influence* c) *Fear of self-medication*
	Reasons for lack of medical supervision	a) *Unaffordability* b) *Lack of trained doctors* c) *Bad experiences with doctors*
	Dose adjustments in HRT	a) *Endocrinologist* b) *Self* c) *Recommended by/observed a trans friend* d) *Internet searches*
Support for and during Transition	Emotional and physical support during the transition	a) *Friends belonging to the LGBTQIA community* b) *Parents* c) *Sister (peers)* d) *Absence of support*
	Financial Support	a) *Parents and pocket money* b) *Salary* c) *Begging* d) *Prostitution*
		a) *Community pharmacy*

(*continued on next page*)

Table 3 (*continued*)

Themes	Sub-themes	Codes/phrases/terms
Procurement of medications	Sources to obtain/ procure drugs	b) *Online pharmacy* c) *Hospital pharmacy* d) *Procurement from peers*
	Reasons to procure drugs/hormones over-the-counter for transition	a) *Lack of affordability* b) *Self-medication as the correct approach* c) *Experimentation with HRT* d) *Recommendations from peers/Guru Ma/Naik*
Management of side-effects	Tackling psychological side-effects	a) *Talking with friends/meeting people* b) *Keeping busy with phone/ internet* c) *Keeping busy with work* d) *On-time medications* e) *Long walks & drives* f) *Inner will power/self-motivation* g) *Stopping drugs for few days* h) *Self-talking/diary writing* i) *Anti-depressants (supervised/ unsupervised) or opium addiction.*
	Choice of treatment for physical side-effects	a) *Stopping of therapy for a short period* b) *No treatment* c) *Home remedies/Ayurveda* d) *Allopathic drug prescribed by general physician/ endocrinologist*
Achieved physical changes	Obtained physical changes	a) *Breast augmentation* b) *Redistribution of body fat to the hips/thighs* c) *Decreased body hairs* d) *Changes in skin texture, voice, and facial features* e) *Collar bone visibility* f) *Reduction in the size of the testicles*
Surgical Interventions	Modus operandi observed	a) *Castration* b) *Sex reassignment surgery* c) *Neglect the genitals* d) *Surgery*

the influence of *Guru Ma* or a transgender friend.

Psychological side-effects due to drugs were persistent and continued until the therapy was completed. To address psychological side-effects, a variety of methods were used depending on the circumstances of each participant. Since participants of the *Kinnar Samaj* lived in kinships, they did not recognize friends/colleagues as an essential factor in the management of side-effects. However, the support from friends/colleagues has been proven to have a significant role in managing these side-effects.

Some participants who reported physical side-effects either did nothing about it and simply 'tolerated' the discomfort or stopped the therapy for a few days. It is interesting to observe that the 'inner will' drove participants who did not do anything to overcome the side-effects. While some tried home remedies or opted for Ayurvedic medicine. Studies relating to the use of Ayurvedic medications during HRT are absent. The desired phenotypic changes were observed in the participant's body within 2–3 years. This is accelerated changes, but during these 2–3 years, participants claim to look evidently eunuchs. A participant(IDI -7) mentions, *"During my years of transition, I used to look like a eunuch, and people used to stare at me."* Such changes are observed reported in the previous studies.

HRT is accomplished by SRS, which is essential but has remained a bone of contention due to the massive cost, post-surgery expenses, etc. The cosmetologist/endocrinologist recommended participants undergo different surgeries. However, the SRS is a dream for most transgenders due to lack of unaffordability, inadequate infrastructure, etc. Therefore, alternative countries to India like Thailand, the USA, and Europe are chosen.

5. Conclusion

Gender re-affirmation procedures are neglected as a part of service delivery systems in Maharashtra. It is needed to create awareness and streamline the process to avail HRT services. Non-governmental actors and community-based organizations can play an essential role in creating awareness related to gender re-affirmation procedures and hormone replacement therapies and help overcome mal-practices and the issue of lack of information. There is also a dire need to sensitize government and private stakeholders on the needs and healthcare services of the transgender community, especially from the perspectives of gender re-affirmation procedures. The government should focus on formulating guidelines and processes for easy access to these services by the population. There should be a serious focus on training medical professionals on gender re-affirmation procedures and developing a sensitive approach to address the community's healthcare needs. There is also a need to establish center of excellence along with regional centres to provide these services at an affordable cost to the community. There should also be a focus on inclusion of these services in national health programs, including provision for health insurance. There is also a great need for research related to hormone replacement therapy in terms of Quality of Life (QoL), cost of illness analysis (COIA), and Disability-adjusted life years (DALYs).

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