

A social-ecological approach to exploring barriers in accessing sexual and reproductive healthcare services among Iranian transgender women

Mina Saadat¹, Afsaneh Keramat², Shayesteh Jahanfar³, Ali Mohammad Nazari⁴, Hadi Ranjbar⁵, Zahra Motaghi⁴

¹Student Research Committee, School of Nursing and Midwifery, Shahroud University of Medical Sciences, Shahroud, Iran

²Center for Health Related Social and Behavioral Sciences Research, Shahroud University of Medical Sciences, Shahroud, Iran

³Tufts School of Medicine, Department of Public Health and Community Medicine, Boston, MA, USA

⁴School of Nursing and Midwifery, Shahroud University of Medical Sciences, Shahroud, Iran

⁵Mental Health Research Center, Psychosocial Health Research Institute, Iran University of Medical Sciences, Tehran, Iran

Abstract

Introduction: The availability and accessibility of sexual and reproductive health services for transgender women are very crucial. This population is deprived of healthcare and social services due to rejection, stigma, gender-based discrimination, confidentiality, and violence motivated by sexual orientation. This study attempted to provide information of the fundamental problems that female transgender individuals face regarding the access to sexual and reproductive health.

Material and methods: A total of 22 transgender women and four healthcare providers were selected using snowball sampling method. Through in-depth interviews, participants were asked about their personal experiences of accessing sexual and reproductive healthcare. The study explored barriers encountered by transgender women to accessing sexual and reproductive health services with social-ecological model. Data were analyzed using framework analysis method.

Results: The study findings identified barriers across four levels of the social-ecological model, indicating that the use of sexual and reproductive health services is influenced by diverse factors. The social-ecological model application illustrated the impact of personal, community, and social and regulatory factors on the condition of sexual and reproductive health among female transgender individuals.

Conclusions: The findings revealed that there are multiple levels of factors that influence sexual and reproductive health of female transgender individuals. There is an urgent need for interventions addressing modifiable barriers to sexual and reproductive health education, and services to improve knowledge, informed choices, facilitate access to services, and provide better sexual and reproductive well-being for female transgender individuals.

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Address for correspondence: Zahra Motaghi, Associate Professor of Reproductive Health, Shahroud University of Medical Sciences, Shahroud, Iran, e-mail: zhmotaghi@yahoo.com

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Introduction

Sexual and reproductive health (SRH) is essential in general health and well-being. Each person has the right to have satisfying reproductive and sexual activities free of violence or intimidation [1, 2]. One of the most vulnerable populations is transgender people. Transgender individuals experience their gender identity as different from the sex assigned at birth [3]. According to the American Psychiatric Association, the term “transgender individuals” refers to “the broad spectrum of individuals who transiently or persistently identify with a gender different” from their sex assigned at birth [2]. In Iran, the total prevalence of transgender people is estimated to be 1 per 141,000 population [4]. Access to SRH services is challenging for transgender people. This process may be even more challenging, particularly if transfeminine individuals are experiencing dysphoria about their reproductive anatomy, are concerned about receiving confidential and affirming care, or have a history of trauma [5]. In this transition, issues, such as hormone therapy, psychological well-being, and fertility, must be addressed [6]. On the other hand, primary healthcare providers may be reluctant to ask questions about the sexual health or fertility issues of transgender persons or avoid discussing sexual orientation topics [7]. Likewise, transgender individuals may not explain their sexual or reproductive health problems to healthcare providers, because they are worried about negative judgments. This population is deprived of healthcare and social services due to rejection, stigma, gender-based discrimination, confidentiality, and violence motivated by sexual orientation [6-8]. Among transgender individuals, 22% have no health insurance compared with other individuals. Even for those with insurance, 70% of transgender persons have faced discrimination in medical care, and 27% have refused the care they need. Approximately one-fourth of them have avoided doctors due to fear of mistreatment and denial of care routine [9]. These issues are exacerbated by the unwillingness of individuals to visit health services. Therefore, the prevalence of sexually transmitted diseases in these communities has increased [10]. All of the above-mentioned factors prevent transgender people from having access to sexual and reproductive services. Substance use rates in transgender individuals are higher than in cisgender persons. Moreover, high-risk sexual behaviors, rates of physical violence experiences (24%), and sexual violence (24%) are higher in comparison with the general population [9]. According to United States Centers for Disease Control and Prevention, transgender people experience HIV infection four times the national population level [11]. Transgender women are around 49 times more likely to be living with HIV than other adults of reproductive age, with an estimated worldwide HIV prevalence of 19%. In some countries, HIV prevalence rates in transgender women are 80 times that of the general adult population [12]. Multiple sexual partners with unknown HIV status, vast diverse sexual relations, and condomless receptive anal sex, increase the risk of HIV/AIDS [13].

The current study was based on social-ecological model (SEM), which recognizes the intertwined relationship between individuals and their environments. Using the social-ecological model as an analytical lens, this study explored the barriers to accessing sexual and reproductive health services at individual, inter-personal, institutional, and social levels. A major strength of the social-ecological approach to health in this study was that it was possible to offer strategies for behavioral change and environmental enhancement.

Material and methods

A qualitative approach was deemed most appropriate since there is very little existing research on that topic. In addition, exploring the barriers to accessing sexual and reproductive health services involved sensitive, emotive, and personal topics that could be best obtained through careful probing using the in-depth qualitative interview.

Study setting and participants

This study's research population included 22 female transgender persons and four healthcare providers of Tehran, the capital city of Iran. It was conducted between November, 2021 and March, 2022, and the participants were chosen based on inclusion criteria, i.e., to have a sex reassignment surgery experience, willingness to participate, and ability to respond. Exclusion criteria were unwillingness to participate and leaving the interview. Snowball strategy was applied as a sampling method, and in order to obtain maximum information, a wide variety of samples (i.e., age, marriage status, education, etc.) were considered, after interviewing the first sample with a snowball pattern. Participants were invited to read and sign an informed consent. Interviews were conducted in a consultant room for participants' convenience. Consultation with the respondent was done to select appropriate environment, and if she was not satisfied, another place was selected for the interview based on her opinion. Samples were selected from around Tehran using snowball method, but most of them were from Tehran's central, southern, and suburbs. Every transgender women, who completed the interview (regardless of eligibility status) received a monetary gift card.

Data collection

Data collection lasted for nearly five months, from November, 2021 to March, 2022, using guide questions and in-depth interviews, with individual interviewing technique applied. Two authors conducted the interviews. Author one is a PhD student with experience conducting qualitative research and interviews. Author two is also a PhD, competent in women's studies, and a researcher in gynecological injuries in several qualitative studies among Iranian women. For ethical considerations and in the snowball sampling method employed in the research, to protect participants'

privacy during the interview, the first participant was asked to introduce a female transgender person, make the necessary arrangements, and ask her permission. After this coordination, the research team contacted her and coordinated the appropriate time based on her opinion. At the visit, all issues related to the research ethics were explained, and she was informed of the full participation authority. The researchers explained that no names or addresses of participants would be mentioned in the publication of the findings, and all their personal information would be protected. Interviews were conducted in a quiet place without any other person, except for the researcher and the participant. Each interview took 45-60 minutes, and was conducted face-to-face or over the phone. Participants were given an option to provide an additional information via e-mail they wanted to add to the interview. Of the 26 participants, 3 sent follow-up e-mails. Participants signed the consent form, and with a permission obtained to record all the conversations on tape, the interviews were carried out. Participants were given a monetary gift card for their involvement. The discussions would be started with a few demographic questions, followed by questions, including "What were the problems to accessing sexual and reproductive health?", "What were the challenges of sexual and reproductive health?", "How have you been treated by your intimate partners and society?", "Have you ever been a subject of violence? Please explain.", "What were the health risks after re-assignment surgery?", "What were your feelings about yourself and your sex partners?", and "What were the supports you received from civil rights and state bodies". During the interview, field notes were used, and participants' postures, such as body language, pauses, and silence as well as the effects of fury on their faces were recorded. Theoretical saturation criterion determined the number of sample; data collection was stopped when the answers were repetitive and new data were not obtained from the interviews. Author one was responsible for conducting the interviews. All interviews were audio-recorded; on average, each interview lasted for 45-60

minutes. Additionally, the minimum interview lasted for 35 minutes, and the maximum for 70 minutes.

Data analysis

Since multiple coders were involved, before data analysis was commenced, three research experts (including the principal investigator) in qualitative research underwent two days of data analysis training to ensure coding consistency. Among other issues, manual coding consisted of codes, category names, and rules for assigning codes. The general principles and procedures for qualitative data framework analysis by Pope *et al.* [14] were followed. These were: 1. Familiarization: identifying a thematic framework drawing on a priori issues; 2. Indexing: applying the thematic framework to all the data in textual form supported by short text descriptors to elaborate the index heading; 3. Charting: re-arranging the data according to the appropriate part of the thematic framework, mapping, and interpretation of re-reading transcripts, assigning categories, coding, and summarizing codes by themes. The analysis allowed the coding process to remain iterative, while drawing on the general structure provided by SEM. In this study, the interviews were read through several times to obtain a context of whole. Then, texts concerning the utilization of sexual and reproductive health services were extracted. The texts were first coded according to SEM levels: individual, inter-personal, institutional, and social used in this study. The text was further coded into sub-categories using pre-defined codes according to SEM factors: skills, attitudes, beliefs, and knowledge; friends, family, and social networks; rules, policies, and informal structures; established norms and values, social networks; economic level of the people and cultural context, national and public policies on health and economy. In order to ensure inter-rater consistency, the codes and categories were discussed among the three researchers, who initially did the coding independently. Once the codes and categories were agreed upon, the underlying meaning of different cate-

Table 1. Coding process from text to a theme

Text	Sub-category	Category	Code	Theme
"I haven't ever wanted kids; I'd like to have the surgery soon to get rid of this penis."	Distress	Attitude	Individual	
"But they just want to be curious to see what you are, what your vagina looks like. The doctor just sleeps me to see what my new vagina looks like."	Curiosity	Healthcare provider	Inter-personal	
"Race, ethnicities, socio-economic status, and being a female trans by itself are the factors why doctors ignore us, and they say that we are sexually perverted."	Ignorance	Discrimination	Institutional	Access to sexual and reproductive health services
"According to the law, trans people do not have the right to maintain their fertility if they want to change their gender; this is a law and we must obey the rules."	Roles	National policies	Social	

gories of the codes was formulated into a theme. An example of the coding process is provided in Table 1. All data from digitally-recorded in-depth interviews that were transcribed verbatim were typed.

Results

The present study was conducted among 22 transgender females and four healthcare providers in Tehran, Iran. The interview revealed several barriers, which were organized into four levels of socio-ecological model, as indicated in Table 2. It has to be noted that some of the barriers were highly inter-related, and thus could naturally be located under any of the four levels. The presentation below was chosen as the best way to guide the reader through the information elicitation.

Individual level

Numerous factors form an individual's life. However, based on the present study, certain factors were identified as significantly influencing sexual and reproductive health. Examples included lack of knowledge about SRH, low perceived susceptibility, attitude towards fertility perseverance, and economic situation.

Lack of knowledge about SRH

Cultural taboos preventing sex and reproduction also contributed to female transgender individuals' reluctance to discuss SRH with healthcare providers, anxiety about being asked sensitive questions, and fear of physical examination. Providers also described religion and social context as factors that prevented them from providing SRH advice or services to transgender people or made them uncomfortable discussing sex. "Parents do not like their children having information about sex issues, or the less information they have, the better, but I think they should train them, so that if someone wanted to hurt them, they can manage that trouble, and not follow the wrong things" (P17). The participants described a lack of 'awareness' about SRH as a reason why they did not access services. There was a perception that services were only for cisgender people and not available to transgender individuals, particularly for female transgender people. Inadequate knowledge about condoms and HIV testing was the major reason for not using sexual and reproductive health services. Lack of knowledge on what they would be asked or what would happen at the clinic, and not knowing how to talk with healthcare providers, were also reasons for not accessing services.

Low perceived susceptibility

Misconceptions about sexually transmitted diseases, HIV, and previous negative experiences with participants' use of sexual and reproductive health services, prevented them from accessing SRH centers. "I had sex with someone that week; there was something on his penis, a bump under his penis. I asked him what this is. Then, the man said nothing, just said this is a gland or something. Now I am very upset that I did not get HIV or HPV? Do you think I should go for a test? Where should I go? Is it more dangerous than HIV?" (P13).

Attitude towards fertility perseverance

Youth transgender women in this study were not concerned about the effects of gender-affirming hormones or surgery on their fertility and biological children's ability due to gender dysphoria and the distress of dissimilarity. "I haven't ever wanted kids; I'd like to have the surgery soon to get rid of this penis" (P1).

Economic situation

Financial difficulties were one of the most significant obstacles to visiting health centers. Some female transgender individuals turn to sex work to fulfill their daily needs. On some occasions, female transgender individuals lose their jobs after revealing their transgender identity and are forced into sex work; therefore, they are exposed to sexual assault and violence due to financial needs. One participant said: "When my employer identified me as trans, they fired me. When I begged him for my job, he proposed having sex with each other, so I lost the job." (P11).

Inter-personal level

The quality of inter-personal relationships has significant and long-term effects on individual well-being. The SEM's inter-personal interaction included the following variables: parents, intimate partners, relatives, and health providers' communication.

Family and friends

Informed parents have a significant role in a child's decision about its' sexual and reproductive health seeking behavior, and can help in the transition period [15-18]. Gender minorities without supportive parents have difficulties communicating properly about sexual and reproductive

Table 2. Barriers to accessing sexual and reproductive health services

Individual level	Inter-personal level	Institutional level	Social level
Lack of knowledge about SRH Low perceived susceptibility Attitude towards fertility perseverance Economic situation	Family and friends Provider's and client's interactions Intimate partner violence	Providers' knowledge Discrimination and stigma Confidentiality concern Social support	Accessibility Insurance Norms and culture Protocols Right and legislation

health [19-21]. Furthermore, the fear of rejection from family prevents intimate communication with parents. In contrast, peers' fear of rejection results in hiding positive effects of having tests, such as HIV/ AIDS and other STDs [18-24].

Provider and client interactions

Lack of proper communication between the healthcare provider and the female transgender person was one of the reasons female trans individuals avoid going to medical staff [25-27]. Female transgender individuals are not fully understood by the providers, and find the environment judgmental and unpleasant. Also, the doctor interaction is not based on honesty and transparency [16]. Furthermore, they examine out of curiosity to explore the trans person's body [28]. One participant said: "But they just want to be curious to see what you are, what your vagina looks like. The doctor just examined me to see what my new vagina looks like." This unfriendly behavior is exacerbated, especially when the female trans person wants to receive treatment for sexually transmitted diseases [27, 29].

Intimate partner's violence

Violence has many causes; it is partly due to low social status and how the community views female transgender. Also, because female transgender people's partners know that they have no backing and support, so they commit physical and sexual violence against them. Some of the responses: "They beat me repeatedly, treat me as a sexual object/toy, and act like I am not a human, especially when they find out that I am trans. They believe they have the right to humiliate and devalue me." (P2); "(...) before intercourse, he forced my head under water for such a long time that I was not able to breath, and my face was covered by bruises." (P22); "When they realize that we are trans, they treat us rudely, and sometimes give us beatings. They know that I'm a trans and live alone, and my family has rejected me, and I have no one to support me, and no one will hear from me or ask how I am. That is why they allow themselves to do anything they please. I remember that one of my boyfriend's bit my back so hard that I could not sit in a chair for a long time." (P5).

Institutional level

In the SEM, the providers' knowledge, discrimination, stigmatized setting, confidentiality concerns, social support, and challenge with name and gender-affirming services constitute the structural level.

Providers' knowledge

Providers' knowledge is one of the most important factors to accessing the health system. Lack of knowledgeable and supportive staff with sufficient experience is a significant hurdle in getting health services. One participant said: "The doctor who did my surgeries did not like to visit me after the surgery, and I have had trouble with my urinary tract, but

he wasn't willing to see me again and treat my problem. So I went to another specialist, but he said he couldn't do anything for me and I should go to my own doctor." (P5). Another added: "I haven't ever met competent physicians; most of them just think of money and don't bother to care for us." (P13).

Discrimination and stigma

Studies have confirmed the direct association between discrimination and stigmatization and poor access to SRH [28]. One participant stated: "Race, ethnicities, socioeconomic status, and being a female trans by itself are the very reasons why our doctors ignore us, and they say that we are sexually perverted." (P16). High levels of stigma and discrimination, lack of or poor quality of services and care in the public sector as well as fear of discrimination prevent transgender people from going to health service centers [23, 25]. Some healthcare providers consider transgender clients' homosexual or sexually perverted, and label a trans person as someone who suffers from mental health issues and high-risk behaviors [18, 30]. Culturally, LGBTs are rejected due to religious reasons in Iran, and that is why doctors behave this way because they are afraid of being framed for being associated with this population [4].

Confidentiality concern

Lack of confidentiality from healthcare providers emerges as an essential barrier to accessing sexual and reproductive health services [23]. One participant stated: "In the clinic, I did some tests, and from that, one of the staff opened their mouth and told everyone that some of my friends were living with HIV and had sexually transmitted infections; because of this, many of my friends don't get tested or go for a check-up." (P18).

Social support

Studies have shown that transgender people express their unique needs in supportive environments. A lack of social support, specifically from the family, is associated with discomfort and a lack of security and safety in public settings [31]. Study participants reported receiving little support from their biological family, friends, and transgender peers. One participant remarked: "I am thrilled when I see my doctor who understands me and guides me in the right direction." (P5). Another added: "After my family knew that I decided to have a surgery, they never wanted to see me; I also lost all my old friends. I'm very lonely." (P16).

Social level

In the SEM, accessibility, insurance, norms, culture, protocols, and regulatory factors constituted the social level.

Accessibility

Inaccessibility is referred to as a barrier to reaching SRH facilities. One participant explained: "In the small town

away from the Capital where I live, we do not have any access to healthcare services suitable for us, so I have to travel a long distance to Tehran (the capital city of Iran) that might have reproductive healthcare, which is convenient for trans people.” (P20). Additionally, these conditions are exacerbated in rural areas [32, 33]. The lack of trans-oriented clinics with competent staff as well as lack of budget and facilities are other barriers to accessing SRH services [13].

Insurance

Absence of insurance coverage or insurance exclusions is another barrier to accessing healthcare. Moreover, financial difficulties are among the most significant obstacles to utilize health centers. Access to gynecological care, ongoing need for most female transgender people was particularly challenging for female trans participants. “The costs of treatment and operations, and the supply of medicine are so staggering that sometimes I have to sell sex in order to pay for it; we don’t have a specific trans-oriented center or even any kind of insurance.” (P5).

Norms and culture

Cultural attitudes and beliefs about transgender people have been mixed with misconceptions and transphobic ideas [18, 25]. The consequences of transphobic behaviors were the most significant reasons why transgender individuals found it difficult to access SRH services. This contributed to a perception among female transgender individuals that they are incompetent to seek SRH services [34]. Lack of awareness and limited reliable information are the essential factors affecting gender minorities’ acculturation [19]. The enrichment a society’s cultural beliefs, norms, and values may impact the social and psychological well-being of transgender individuals [20].

Protocols

Lack of consistently applied protocols was cited as a barrier to accessing sexual and reproductive health care, especially for young individuals at puberty [15]. The development of protocols for maintaining of female transgender individuals should be transgender-inclusive and holistic [26, 32]. One of the specialists said that “Our surgeons in this era aren’t qualified enough, and they need to pass comprehensive courses to become more professional in re-assignment surgery. They just operate on trans people without follow-up treatment of the urinary tract function and without paying attention to their sexual needs.”

Right and legislation

Reducing health inequalities is a fundamental goal for the general population and essential for gender minority groups [35]. In general, the prevailing political climate prevents effective communication in the sexual and reproductive health axis, and transgender individuals continue to experience inequalities in accessing health and social care services. One participant noted: “According to the law, trans people do not have the right to maintain their fertility if they

want to change their gender, this is a law, and we must obey the rules.” (P20). Politicians and other stakeholders should have robust strategies to support transgender individuals’ sexual and reproductive health services [36].

Discussion

Female transgender individuals, similar to other people in the society, should have equal rights to access sexual and reproductive health services. Poor SRH knowledge and practices among female transgender individuals are a complex matter that is affected by the personal, community, cultural, and regulatory factors. All these factors overlap and are affected by each other. Therefore, it seems that transwomen should be studied, and their issues related to access to reproductive health care should be thoroughly analyzed given their living environment as well as cultural, social, and economic conditions. The SEM model can guide politicians, medical staff, families, and society to identify and solve problems, because it can identify weaknesses and complexities in sexual and reproductive health. According to the culture and context of trans community, influential people can identify problems at each level and take action to resolve them. By incorporating these levels of influence in qualitative studies, barriers to accessing SRH services are more readily understood. Furthermore, recommendations are generated that consider the inter-dependence of these levels and inform the choice of intervention to improve access to SRH services for female transgender individuals. The results of our qualitative study indicate that female transgender individuals are mostly a hidden population, and we have little information about their stress level and coping mechanisms. For that reason, further research is needed to overcome these barriers regarding the emotional well-being of female transgender individuals and their families.

Information empowerment

Limited information and lack of awareness seem to be the essential hurdles for accessing sexual and reproductive health services [18, 27]. Existing literature confirms our finding that the lack of knowledge about SRH engage transgender women in high-risk sexual behavior [13]. Consequently, since female trans individuals do not have enough information about SRH issues, it is essential to empower their awareness and knowledge by disseminating accurate information, and support this population against irreversible decisions and vulnerability to risky conditions, such as HIV/ AIDS and other STDs [19]. It is worth mentioning that raising community’s awareness and knowledge, especially of parents, peers, and medical staff, is also crucial in increasing the use of SRH services by transgender people.

Relationship empowerment

Female transgender individuals may face lifelong difficulties from social marginalization, rejection from family,

depression, substance abuse, bullying and intimate partners' violence, leading to weaker sexual and reproductive health conditions. Furthermore, there is a need for increased social support for SRH [18]. Attitudes about risky and safe relationships also need to be addressed, especially within sexual relationships. Previous studies showed that compulsive sexual behavior [27], multiple sex partners [18], and intercourse under the influence of drugs or alcohol [22] are prevalent among the transgender women community. Prevention programming could reframe perspectives around intimacy and promote the use of condoms. These targeted programs for female transgender individuals decrease the risk of HIV/AIDS and other sexually transmitted diseases. Moreover, the relationships between family, peers, healthcare providers, and trans individuals should be based on knowledge, respect, understanding, and non-judgment. In this case, negative consequences, such as rejection from family, dismissal from work, and reluctance to seek healthcare can be avoided to a large extent [33, 37]. The results of this study showed that female trans individuals desire to access information related to their health and well-being from knowledgeable and well-respected health professionals. The results suggest that we can hope to manage relationships by enhancing families' knowledge and affected individuals.

Community empowerment

Stigma and discrimination are the most prominent barriers deterring female trans individuals from seeking health services. This study's findings demonstrated that strong social stigma and discrimination of female trans individuals contributed to transgender people's reluctance to seek appropriate treatment. In general, we recommend that healthcare providers communicate with female trans individuals non-judgmentally, avoid any assumptions about sex and gender identity, and focus more on patients' health. With their negative and stigmatized attitudes and denial of treatment to female trans individuals, healthcare providers neglect their duty to safeguard all patients and violate the female trans individuals' equal rights to health. Meanwhile, the fear of disclosing their sexual identity to health professionals has limited access to healthcare, which could undermine the accuracy of diagnoses and treatments' effectiveness. Negative experiences with healthcare providers further affect their future use of SRH services. WHO guidelines on HIV/STDs prevention and treatment for transgender people (2011) state that "Legislators and other government authorities should establish anti-discrimination and protective laws, derived from international human rights standards, to eliminate discrimination and violence faced by transgender people, and reduce their vulnerability to infection with HIV, and the impacts of HIV and AIDS" [38]. This study highlighted the importance of removing obstacles faced by female transgender individuals in accessing health services and combating stigma in healthcare settings. Also, there is evidence that requiring healthcare providers to undergo a sensitivity training program can improve their knowledge and attitudes towards a stigmatized community.

Social empowerment

Social deprivation is the greatest challenge to health and well-being of female transgender population. The underlying social exclusion mechanisms that undermine the right to health in health settings and broader society must be addressed. This study's results demonstrate a lack of decent, available, accessible, and affordable SRH services for female transgender individuals. Many health services are unsuccessful in meeting the multiple health needs and priorities of the gender minority identities. These vulnerable persons would like to access acceptable, affordable, and accessible sexual and reproductive health services that treat HIV/AIDS and STDs, and cover other conditions, such as treatment and transition surgeries care, reproductive health, and mental health with full insurance coverage.

Study limitations

Although the SEM addresses the complexities of health-seeking behaviors of female transgender people and offers strategies to improve their access to healthcare, this model also has limitations. It fails to show how factors at each level influence SRH behaviors. The model's complexity also reflects the realities and difficulties of developing appropriate interventions [7]. The study sample was relatively small and selected using convenience sampling. Although the number of participants was not large, the degree of consensus on the issues discussed provides support to shared issues in the SRH of transgender women in Iran. The other limitation of the study is that most data were mainly from Tehran, and there are limited data from other cities. This study reveals different layers of barriers that prevent female transgender individuals from seeking SRH services.

Conclusions

The results of the present study demonstrate that the female transgender population faces barriers to accessing SRH services across four levels mentioned in the social-ecological model: intra-personal, inter-personal, institutional, and social. Each level manifested the barriers to accessing SRH services among this population. Furthermore, based on ethical principles, these individuals have the same rights as cisgender persons to benefit from sexual and reproductive healthcare. The findings of this study also provide some potentially valuable insights for politicians and other stakeholders to support female transgender individuals' sexual and reproductive health.

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Conflict of interest

The authors declare no conflict of interest.

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