

A Qualitative Study Examining Transgender People's Attitudes Toward The Desire to Have Biological Children and Pursue Fertility Treatments in Greece

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Abstract

Background: Biomedical technologies advances permit transgender individuals not only to achieve gender transition but also experience parenthood. Little is known about it in Greece, a traditionally conservative country, which however, is changing at legal level towards greater recognition of transgender people's rights. This study aimed to investigate transgender people's attitudes toward the desire to have biological children and pursue fertility treatments in Greece.

Methods: This is a prospective study among adult individuals who identified as transgender men or transgender women between April 2019 and March 2020. Individual in-depth qualitative interviews were conducted with twelve participants. The interviews were conducted in person and were digitally recorded and transcribed verbatim. The authors performed an inductive analysis of data.

Results: The inductive analysis of the study findings resulted in the following themes that represent key barriers to pursuing FP or ART: lack of fertility counseling, fears of discrimination and bullying, high costs, concerns related to the child's welfare, less than perfect legal framework, and gender transition. Not all participants expressed strong desire to have offspring. A number of sub-themes were grouped under the base themes. Concerns related to the child's welfare due to factors related to context or transgender people themselves. Fertility treatment may impact negatively the process of transition or the result of it. The strength of the desire for fertility treatment is crucial. Various reasons behind the transgender people's desire for parenthood were identified. Transgender individuals (especially those in social transition) showed striking adherence to patterns of the dominant culture when it comes to having children.

Conclusion: The results demonstrate the importance of a) contextual factors (stigma, economic instability, law), b) factors related to transgender people themselves (gender dysphoria, desire to become parents, self-trust), as well as c) the preferred type of gender transition (social or medical) in considering or pursuing fertility preservation or assisted reproductive technologies. Transgender people's attitude towards having children is a complex topic in need for further investigation. We stress the need for training health professionals to establish a safe environment for transgender people who want to undergo fertility treatment, go through pregnancy and give birth.

Background

An increasing number of young transgender people today are using medical procedures such as gender-affirming hormonal or surgical therapies to achieve gender transition¹ [1, 2]. Gender transitioning is 'the process of changing one's gender presentation and/or sex characteristics to accord with their internal sense of gender identity' [3]. Importantly, transgender young people never before than today were seeking medical (i.e. hormone) therapy as part of the transition process at earlier stages of development [1]. While research has shown that gender transitioning people experience a psychological benefit [4], the multifaceted process of gender transitioning with hormones or sex reassignment surgery may introduce a higher risk of significant long-term implications, including temporary or permanent loss of fertility [5, 6]. Notwithstanding, recent advances in biomedical technologies not only have enabled gender transition but have also made it feasible for transgender individuals to experience parenthood. At present, fertility preservation (FP) techniques include sperm banking for transgender women and oocyte, embryo, or ovarian tissue banking for transgender males, while new FP

techniques may appear in the future. For instance, uterus transplantation may become available in the coming (although not presently foreseeable) future for transgender women.

As a consequence, transgender people face complex and tough decisions about whether to freeze sperm or eggs or undergo assisted reproductive technologies (ART) [6]. The introduction of alternative means of achieving biological parenthood through medical advances has, therefore, created new forms of families including (at least) one transgender person. However, 'the uptake of this option to date has been low' [7] and very little is known 'about how transgender people create their families and the issues involved in these decisions' [8]. More specifically, 'little is known about their desire to have children and attitudes toward fertility preservation options' [9]. As yet so little is known about the complex topic 'medically assisted reproduction in transgenders', and hence, it needs some more clarification [10].

This manuscript attempts to expand what is known about transgender adults' attitudes and desires as related to family formation and FP in Greece, where further empirical research is needed to provide a more nuanced exploration of transgender people's rights, including the right to equal access to healthcare services [11].

As yet, in Greece there is a lack of empirical evidence to support an understanding of what it is like for transgender people to make a decision on whether to pursue FP or ART. Greek society is traditionally conservative. However, within the recently changing legal framework that gave a major boost to transgender rights by allowing citizens to choose to legally change their gender identity, more transgender people are expected to be at fertility clinics. If this is the case fertility clinics will face an entirely new patient group (transgender people) "whose reproductive futures were previously considered either impossible or undesirable are now 'anticipating infertility' and engaging in 'family planning' as central parts of their lifecourse and medical engagements' as Payne and Erbenius (2018) wrote in respect to Sweden [12].

The legal context of transgenderism in Greece

In Greece, transgender people are protected from discrimination, bullying, and harassment under the current legal framework. Since 2013 the Greek Criminal Code has punished gender identity discrimination and violence. This legal protection has been enhanced by the anti-racism Law n.4285/2014. Nevertheless, over the past recent years Greece adopted extreme austerity measures that led to the rise of the far-right parties. As a consequence homophobic and transphobic violence and rhetoric have substantially increased [13, 14]. More recently, the Law n. 4491/2017 allows citizens to choose to legally change their gender identity (from the age of 15). Importantly, this law actually improves transgender people's right to change their official gender registration according to their own understanding of their gender identity without requiring a medical treatment. Under the new law young people (between the age of 15 and 17) can apply for legal change of their gender identity after having obtained a certificate issued by a medical council (in Athens Children Hospital). The law brings the Greek legislation in line with the legislation of most EU countries [15]. Transgender Europe (2017) welcomed this law [16]. Undoubtedly, the law is an important step to improving transgender people's autonomy. As the new law allows citizens to choose to legally change their gender identity without requiring a medical treatment, it is paving the way for transgender parenthood. However, certain needs of transgender people remain unaddressed, as the autonomy of transgender people to choose their gender identity remains quite limited. First, a legal change of gender identity is granted to the applicant after their appearance before a court. Second, transgender people must be single (perhaps against their will) to apply for a legal change of their gender identity. Third, transgender people who

already have children and apply for a legal change of their gender identity are presented in the registry certificates of their children with their old gender identity (sex assigned at birth). This may affect the relationships between transgender people and their children.

Unsurprisingly, legal amendments can hardly alter culture-rooted issues [14]. The Orthodox Church of Greece has been for a long time profoundly shaping Greek people's moral and social attitudes. The Orthodox Church of Greece stated that the law was 'a satanic deed' that leads to 'the destruction of social cohesion and the spiritual necrosis of man' [15]. Greek cultural values place considerable emphasis on heterosexual coupledness, promoting the view that it is a prerequisite for one's personal fulfillment [17]. Religion is a major factor that strongly influences Greek culture, particularly regarding sexuality and marriage.

In Greece, Laws n.3089/2002 and n.3305/2005 constitute a regulatory environment that is largely liberal compared to those of many other European countries and that allows citizens to access in-vitro fertilization (IVF) techniques such as heterologous fecundation (assisted fertilization of a woman's oocyte with donor sperm), surrogacy, post-mortem fertilization, cryopreservation and donation of gametes or zygotes. Under the actual Greek legal framework, IVF is permitted only for strictly medical reasons, namely, for those 'unable to have children naturally' (Greek Civil Code, article 1455§ 1). Individuals who a) are not medically infertile, b) strongly desire a child, and c) are very unlikely to conceive through natural intercourse because their gender identity precludes this are not presently allowed access to IVF technology. Hence, access to IVF techniques is not granted to same-sex couples or single men. However, a lesbian transwoman can access IVF techniques only by presenting herself as a 'single woman' wanting a child (Law n. 3089/2002 in combination with Law 4491/2017).

Methodological Aspects

Instrument

The present work has been a prospective qualitative research study centered on exploring the social reality and the description of the lived experiences and attitudes of individuals who identify as transgender toward having biological offspring. Data were collected through semi-structured in-depth interviews conducted in person with 12 individuals who identified as transgender men or transgender women between April 2019 and March 2020. .

Research questions

The grand tour question that delineates the focus of this study is the following:

What is the attitude of adult transgender women and transgender men toward the desire to have biological children and pursue fertility treatments in Greece?

The secondary research questions are:

1. What are the factors (if any) affecting transgender individuals' fertility decisions?
2. What are the challenges (if any) that transgender people face in accessing fertility treatment or pregnancy and birth services?

Participants: Sampling criteria and recruitment

The potentially selected respondents of this study (N=12) were transgender men and women in different transitioning stages, diverse in terms of age, gender identity, transition phase or type, place of residence, sexual orientation, and educational backgrounds. The age of the participants ranged from 23 to 60 years, with the majority between 27 and 45. The mean (standard deviation, SD) age of participants was 40 (11) years.

Participants were recruited through incentivized snowball sampling, community outreach and the interviewer's personal contacts. Potential participants were contacted by telephone to schedule an interview.

All participants were adults and had been Greek citizens for at least the last 10 years. All participants resided in urban areas. Participant characteristics are presented analytically in Table 1.

Data collection and analysis

The interviews conducted one on one. The interview guide development was guided by a review of the relevant literature. The guide was slightly refined after the initial results from a few interviews, in order for participants to be allowed to get better understanding of the specific issues being questioned. Last, we developed an informal grouping of topics and questions that the interviewer could ask in different ways for different participants. The interview guide comprised a number of topics to capture a wide range of participants' lived experience. These topics were related to a) making fertility decisions, b) accessing fertility treatment, and c) accessing pregnancy and birth services. The participants were encouraged to expand upon the examined topics.

All interviews were conducted by a researcher experienced in carrying out qualitative interviews, which lasted from 38 minutes to 55 minutes each (mean 44 min). All interviews were held in quiet places (mostly private rooms) where the environment was comfortable. As phenomenological researchers we were interested in describing participants' experiences while being in a natural (normal, unreflective and effortless) attitude. Interviews were digitally audio-recorded and transcribed verbatim to preserve authenticity. In addition, field notes were used for recording non-verbal behavior patterns. The data obtained from interviewees were thematically categorized and analysed. In addition, field notes were used for recording non-verbal behavior patterns, as well as procedural and contextual aspects of the interviews, which enabled deeper and contextual critical reflection on data collected. The research data were gathered through combining conversational interviewing and structured-question interviewing to help produce a set of insightful findings. Reflexive thinking was used throughout the research process to reduce unwitting personal bias. The authors strived to use reflection for increasing awareness of their pre-understanding of the study phenomenon. To ensure trustworthiness in the study, the interviewer spent time beforehand to gain participants' trust. For this reason, in all the interviews the initial part was devoted to the apprehension phase of the interview process that follows the phase of building rapport [18]. This phase was largely devoted to topics not directly concerning the matter of this research, such as gender dysphoria, social stigma and discrimination, or gender transitioning process. Interestingly, this part of interviews has been proved to be useful for the purpose of conducting a better data interpretation in the process of thematic analysis. Interviews were assigned to a bioethicist (CV) who conducted thematic analysis of data. Each one of us engaged with other researchers to limit research bias.

Qualitative analysis used thematic content analysis [19]. As transgender men's experiences of barriers in making fertility decisions or in accessing fertility treatment or pregnancy and birth services had not been previously explored in the context of Greece, the authors considered themselves as not being already aware of probable participants' responses. Therefore, they selected to use 'the actual data itself to derive the structure of analysis a

data-driven analysis' (namely, the inductive approach), which is less bias and more comprehensive and flexible (though time-consuming) than the deductive approach that involves analyzing data with 'predetermined theory, structure or framework' [19].

A verbatim transcription of the auto-recorded narratives was performed. The researchers followed [Gibbs' \(2007\)](#) [20] advice on how to demonstrate qualitative reliability. Using this perspective, they carefully examined, verified and read repeatedly the transcripts to get a good sense of the participants' narratives [19]. They constantly compared data (as described by Patton, 2002) [21] to ensure the codes were used consistently. Open coding used to identify quotations related to our research questions. After having summarized these quotations in notes, the researchers grouped phrases reflecting the same context to form categories and subcategories that might represent starting points for the results of the study. Then, transcripts were reread in constant comparison with the list of categories and subcategories to identify further phrases in transcripts that might serve the purpose of our research goal. Thereby, the researchers strived to capture and investigate in depth all aspects of participants' narratives related to our research goal. Moreover, the researchers coordinated communication, and shared analysis among the researchers. Finally, a data management software program ([NVIVO, 2015](#)) was used to secure and further refine the systematic character of the analysis.

Ethical considerations

The interviews were conducted in neutral places of the participant's choice, thereby ensuring privacy and confidentiality and minimizing environmental impact. Prior to participating in this study, the participants were given adequate information on the aim, procedure, nature and confidentiality of the study, and oral consent to participation was obtained. The ethical principles of anonymity, voluntary participation and confidentiality were considered. Anonymity and confidentiality have been maintained throughout the study. In order to preserve their anonymity, numbers (e.g. T 1) are used in this paper. The interviews were registered and stored in a strictly confidential fashion. The study and consent procedure was approved by ethics committee affiliated to Aristotle University of Thessaloniki, Faculty of Health Sciences, Department of Medicine (No: 2.128 / 27-02-2019).

Results

The inductive analysis of the study findings resulted in the following themes that represent key barriers to pursuing FP or ART: lack of fertility counseling, fears of discrimination and bullying, high costs, concerns related to the child's welfare, less than perfect legal framework, and gender transition. Not all participants expressed strong desire to have offspring. A number of sub-themes were grouped under the base themes. Concerns related to the child's welfare due to factors related to context or transgender people themselves. Fertility treatment may be a challenge for the process of transition or the result of it. The strength of the desire for fertility treatment is crucial. Various reasons behind the transgender people's desire for parenthood were identified. Transgender individuals (especially those in social transition) showed striking adherence to patterns of the dominant culture when it comes to having children.

1. Lack of fertility counseling

None of the participants reported having received adequate FP counseling before starting their transition, while six out of twelve participants indicated that they had not been given adequate information about their FP options.

The participants T1 (51-year-old transwoman in complete transition), T5 (28-year-old transman in incomplete transition²), and T6 (27-year-old transman in incomplete transition) did not express regret about missed opportunity for receiving further information from their psychologist/psychiatrist or endocrinologist about FP. However, participants T3 (23-year-old transwoman in late transition), T7 (36-year-old transman in late transition), and T9 (29-year-old transman in complete transition) stated clear complaints about being deprived of the opportunity to make fertility decisions, namely, to have a choice about having children genetically related to them. Hence, some participants described a point at which they should have received information about fertility preservation options, although at the time some transgender persons may not have been able to fully understand what are the potential implications of their decisions as well as what they will be wanting many years later, due to the fact that they were minors or young adults. Transitioning transgender adolescents may not feel ready to make such an important, lifelong decision at their age. However, they are forced to consider whether to preserve their sperm or eggs.

The participant T3 (23-year-old transwoman in late transition) stated,

"...A health scientist should have informed me about it... and I went as early as 16... this is what I tell other youngsters, that, 'OK, you may not be interested in becoming a parent now, but you never know what might happen ten years from now'... no information is given to us..."

In the same vein, the participant T7 (36-year-old transman in late transition) said,

"...if I had known when I was 20 [about cryopreservation], I don't know what I might have done. Some people did not make this choice because they did not know about such an option, and they might have wanted to make such a choice later on..."

The participant T6, a 27-year-old transman in incomplete transition, stated that he was not provided with fertility counseling before starting gender transition because, in the healthcare context, he came across as being uninterested in having children. Reflecting on his experience, he said,

"They did not talk about this; it was not their priority for any reason... in the health system... They knew that this matter did not concern me..."

2. Fears of discrimination, bullying, and harassment as barriers to transgender parenthood

a) Discrimination, bullying, and harassment during pregnancy

Participants expressed fears of discrimination ranging from subtle forms (such as social disapproval) to physical violence.

The fact that the phrase 'transgender parent' gives other people a bad impression was reported as discouraging to transgender people with regard to considering FP and assisted reproduction options. Participant T9, a 29-year-old transman in complete transition, said,

"... it sounds bad... when you say 'trans-parent', they immediately think, as soon as they hear it, that it is very strange..."

The participant T3, a 23-year-old transwoman in late transition, stated,

"Imagine a trans-man pregnant walking in the town square... to start with, it is dangerous for the person themselves, for their physical integrity..."

The participant T12, a 52-year-old transwoman in incomplete transition, believed that a transgender parent may be at high risk of being bullied by other people as long as she remains visible as a transgender person. However, the participant expressed fears of another form of bullying that may occur among transgender parents even though a transgender parent remains invisible as a transgender person. This form of bullying (forced removal or separation of children from their parents) comes from a transgender parent's family context or close relatives. The participant stated,

"Now, look! If you see a trans person in public who shows they are trans, if they go out with the child, they may be taunted, they may have to face many things, I believe. If it does not show, I believe they will not face any particular problem, unless there is a problem in their environment, their closer, family circle... the [family members] may set procedures in motion to take the child themselves or send it to an institution or something. All that matters is that the child should not be with the trans individual, which is the worst thing for them..."

b) Bullying by health providers in birth settings

A transman who goes into hospital or a midwifery unit to give birth may commonly be the subject of bullying by health professionals. The participant T2, a 60-year-old transman in complete transition, bisexual, expressed his fears:

"The only problem is society, when you go to a maternity clinic with a beard... You will have to be able to go for pre-natal birthing classes; you need to receive treatment in an atmosphere of understanding at the hospital, not to be abused."

In the same vein, the participant T3, a 23-year-old transwoman in late transition, said:

"... and how would they be treated during delivery? Does such a person, in other words, have to be rich and go to a private clinic and pay so they are treated with dignity? This does not mean that there are not people in the public health system who do not treat you with dignity [she relates her experience]."

Unfortunately, health professionals are reported to be the originators of bullying behavior not only within reproductive healthcare contexts, but also within other healthcare contexts. Two participants described negative experiences with health providers that reflected deficits in their providers' willingness to offer appropriate healthcare to transgender patients. More specifically, they described instances in which health professionals demonstrated subtle (verbal and 'low intense') bullying-related behavior or at least a lack of empathy for the issues faced.

The participant T3, a 23-year-old transwoman in late transition, recalled:

"... When I visited a plastic surgeon for the breasts, he had forgotten my problem; he was, like, 'Is a psychiatrist attending to you? Are you seeing any doctor? What kind of hormones have you taken? What other operations?' I felt, in a way, [that] I was being abused. Because there were other people present..."

In a similar vein, the participant T7, a 36-year-old transman in late transition, detailed his experience:

"... access to the health sector is very difficult for us... and an unpleasant experience, right? How can you go to the hospital and hear them ask you: 'Now, what are you?' 'What is it that you've got under your knickers?'..."

... [the health professional] hardly looked at my health booklet, although I had explained that I was a transsexual person... He took one look at the injection and he went: 'Ah... testosterone... why are you having this shot?', in front of other people; and I go: 'I am going to tell you'..."

3. The process of transition as a barrier to fertility preservation and assisted reproduction

This was a significant theme. We got the sense that transgender people who are willing to become parents have a close brush with a dilemma that may occur because of equally (or almost equally) compelling reasons both for and against pursuing fertility treatment. Achieving a successful gender transition as soon as possible is a compelling reason against pursuing fertility treatment. Nevertheless, we recognized that participants were almost always clear about their choices.

a) Fertility preservation as a challenge for the break-up with the old gender

The procedures required for fertility preservation (such as hormonal ovarian stimulation) as well as sperm or oocyte storage may challenge the break-up with the transgender person's old gender identity.

The participant T1, a 51-year-old transwoman in complete transition, was highly concerned that sperm storage would strongly challenge the (highly desired) break-up with his/her old gender identity. She explicitly declared that it would be distressing (for reasons related to gender dysphoria) to pursue fertility preservation and stated,

"... there was no such suggestion by anyone; even if there had been such a discussion, I would not even stand to hear about it; I wanted to erase any trait left... It is out of the question that I would give my sperm for a biological child... I think this is because it would reduce my female substance (!)... I don't even remember myself... It's as if a roller shutter has come down, a curtain, and I cannot see the past... I try to remember me and I cannot remember me..."

However, the participant said that if she had the opportunity to undergo uterus transplantation at a younger age, it would have significantly contributed to the success of her transition. The participant stated,

"... in other words, it would be continuing on the way to a sense of completion... 100%; I would have felt completed, but, OK, this did not take place when it should have..."

In a similar vein, the participant T5, a 28-year-old transman in incomplete transition, pansexual, expressed strong concerns about worsening gender dysphoria by completing invasive fertility preservation (at least without strong countervailing reasons). He believed that going through the FP procedure (i.e., including hormonal stimulation and egg retrieval) could be quite invasive, and stated,

"... I am not going to subject my body [to this] and risk my mental health and serenity, if it is not absolutely necessary... I don't know how it might affect my emotions, because I am trying to break free from that gender; I would not like to go back to such symptoms..."

The participant T6, a 27-year-old transman in incomplete transition, made it clear that it could be distressing (as having a negative impact on gender dysphoria) to delay gender transition to facilitate fertility preservation or to

undergo invasive FP procedures while having to wait for (medical) gender transition to start.

"I was thinking about doing this before I started the transition, but the procedure was truly difficult even before the transition, because of the hormonal disorders... No way could I have had the physical or mental strength to put up with this; that's why I am looking forward to my hysterectomy, to be done with this matter once and for all."

Furthermore, mere oocyte storage may challenge the break-up with the transgender individual's old gender identity, although the particular individual is in complete transition. The participant T9, a 29-year-old transman in complete transition stated,

"... I think it's difficult to communicate this to the other person... to sit and tell him, 'You know, I have some stored [i.e.,ova]... and we can do it this way'... I don't know how easy that might be."

b) Fertility preservation (or fertility treatment) as a challenge for the medical transition process

The participant T3, a 23-year-old transwoman in late (endocrine) transition, discussed her worry that treatment with testosterone to improve sperm quality would significantly challenge her process of (medical) transition and, hence, that the effort would not be worth it, as the success rate is very low, which means that there would be no strong reasons for doing it. She stated,

'A child of my own? I don't think this is possible anymore... because I have no intention to reverse my hormone treatment, so I am telling you, wittingly, THIS possibility is out of the question for me, i.e., to become a biological parent; I do NOT exclude becoming a parent, but I DO exclude the biological aspect of it. Because I would have to reverse the hormonal treatment, which I am not going to do... why should I give testosterone to my body? Whatever for? For something that is very unlikely to be successful? Because the chances they give you that my sperm will be OK are very low... This would take me way back in time, for my appearance as well...'

c) Type of transition and desire to pursue FP or ART

The participant T4, a 45-year-old transman in social transition, was much more willing to donate gametes (oocytes) than many other participants. Strikingly, he states that he cannot understand why many transmen are not willing to get pregnant as well as that the desire for parenthood may be stronger than the desire for gender transition.

"Yes, absolutely, yes, yes, yes, [I would like to donate an ovum]... this is why, if I am going to receive hormones, I will discuss it a lot with my doctor... after their transition, trans persons do not want to have children as... hmmm... using their body. If you ask me about it, I would say that they would like their boyfriend or girlfriend to do it with another person or to adopt... the question is what [do] you want more: to be a trans person or to be a father? To be a trans person or to be a mother?..."

d) The unwillingness of transmen to get pregnant is very strong

This is also an opportunity to formulate another hypothesis for further research. The participant T10, a 38-year-old transman in incomplete transition, declared his unwillingness to get pregnant although he had a strong desire to have children and a family. However, he was willing to pursue FP and donate oocytes.

"...I am all for having a family and children. Hmmm, ... if my girl wants to get pregnant, if that is her intention [she is in a wheelchair]; I don't want to. I want to proceed with the removal, so this will never happen. Any kind of surgery to freeze my ova so that they may be fertilised, if this is possible..."

4. Reasons behind the desire for biological parenthood

We remarked differences in responses and attitudes towards fertility desire and about having children. Participants were not always clear about the reasons behind a transgender individual's willingness or unwillingness to have biological children and the interviewer often needed to ask directly.

Participants in the present study indicated that the desire to have biological children has a deeper meaning than a legitimate wish. While rationalizing transgender people's desire to have biological children, participants discussed several reasons for this desire. For example, the participant T9, a 29-year-old transman in complete transition, placed considerable emphasis on the value of genetic relatedness and biological resemblance between parents and children as the reason behind the desire for biological parenthood, and stated,

"Simply because of the reasons anyone has: that they want to feel it is their own child, made with their own material... to see some features in this child... biological ones."

In a similar vein, the participant T12, a 52-year-old transwoman in incomplete transition, believed that a transgender person's desire to have children is based on the innate human need for having children, and stated,

"Someone who is a trans individual does not stop wishing they had a child... Just like with cis... I believe that [the wish to have a child] emerges purely for the biological need each individual has."

However, the participant considers that it is the strong desire for parenthood that motivates a transgender person to pursue FP techniques and ART, and stated,

"Now, I don't know if a transwoman would undergo the procedure to have a biological child... only if she truly wants it..." "...I believe things are completely different for homosexuals..."

In a similar vein, the participant T8, a 50-year-old transwoman in social transition, strikingly underscored the role of the so-called 'biological clock' in shaping a desire for biological parenthood, and stated,

"Whether you are a trans-sexual or a bisexual or a heterosexual, aren't you going to have a kid? Therefore, don't you want to have a family and a home for this child?... You are beautiful yourself, why adopt? [Having a child] is a blessing from nature... For better or worse, when the biological clock ticks, everyone wants a child..."

The aforementioned participant T8 strongly stood in favor of the natural way of conceiving a baby. She strongly rejected the use of medically assisted reproduction techniques, and said,

"Artificial insemination/cryopreservation? I really don't want any of all this, dear girl! In other words, I prefer more traditional things. Even a lesbian who wants to have a child, could find a one-night stand and have a child... Frozen sperm? Yuck! Not for me!"

Surprisingly, the participant remained strikingly steadfast in adherence to patterns of the dominant culture (based on naturalness/biology and heteronormativity), at least in the context of reproduction.

It is worth mentioning that the participant T9, a 29-year-old transman in complete transition, highlighted the genetic relatedness between parents and children, and conveyed the impression that if he had 'excellent DNA' it would constitute a strong reason for making him willing to pursue FP and donate oocytes to his partner. He stated,

"...Personally, I couldn't care less if the child is mine; ha, ha, OK [to donate, e.g. ova to his girlfriend to get pregnant], I don't even believe that my DNA is anything special... so, this is what I believe."

Note, however, that this view may result from mechanisms such as ex-post realization or the over-generalization of hard-wired perceptions due to low self-esteem (which, in turn, may be due to internalized anti-trans prejudice). Further studies are needed to assess whether internalized anti-trans prejudice is associated with a weak desire for having biological children or an unwillingness to have children.

The participant T3, a 23-year-old transwoman in late transition highlighted that the desire for biological parenthood is egoistically motivated, and stated,

"[I would like a child] for the same selfish reasons any cis person does; I don't believe [there is] some biological clock... eh, the feeling has to do with selfishness..."

This view deviated from the dominant culture that highlights essentialism (biology, naturalness). However, on the other hand, the above-mentioned participant took a clear stance in favor of biological ties between parents and children. The participant T3 missed the opportunity to have her own children (due to a lack of information about FP options before starting her transition), and stated,

"... what I expect for the future is for my partner to have a child... it would be our child... because this would be my first thought before adoption..."

Not surprisingly, the participant T11, a 38-year-old transman in late (almost complete) transition, did not emphasize the biological ties between parents and children. Strikingly, he believed that genetic and social parenthood should be thought of as having equal value, while placing considerable emphasis on values such as love and affection between parents and children. This view clearly deviated from the essentialist reasoning about parenthood that highlights nature (biology), which is strictly associated with the dominant culture and ideology. The participant stated,

"Sharing ova [giving one of hers to her partner]? Hm, no... what I mean is, won't it be my child if I raise it? Is it necessary for the child to have my ova so that it is mine? The point is, if you have a child, whether biological or not, you have to love it. In other words, if it is not your biological child, you are not going to love it?"

In conclusion, the analysis of our findings revealed that transgender people are most likely to have the same basic reproductive needs as cis-people. Some transgender individuals place great weight on the value of genetic relatedness.

5. Skipping fertility health care due to high costs

In this study, economic factors such as the cost of the FP procedure and the storage of gametes were reported as major barriers to transgender parenthood. More particularly, the participants T3 (a 23-year-old transwoman in

late transition) and T7 (a 36-year-old transman in late transition) highlighted that the costs of long-term cryopreservation of sperm and oocytes (respectively) are so high that many transgender people skip fertility preservation, provided that these procedures of storage are not covered by health insurance (private or public). Furthermore, the costs of the mere assisted reproductive technology procedures were found to be high by the participant T5 (a 28-year-old transman in incomplete transition, pansexual). Moreover, the participant T8, a 50-year-old transwoman in social transition said that transgender people have to be rich ('bourgeois') to raise children!

6. Concerns related to the child's welfare as barriers to fertility preservation and assisted reproduction

a) Transgender people fear that their children will be bullied

The participant T3, a 23-year-old transwoman in late transition, highlighted the social prejudice and discrimination faced by children with transgender parents, and stated,

"...In the local community [reference to the name of the person's village of origin], even an adopted child is at times pointed to and called a bastard."

Interestingly, from the inductive analysis of the study findings, fear of social prejudice did not emerge as the main barrier to transgender parenthood related to a child's welfare.

Surprisingly, the participant T1, a 51-year-old transwoman in complete transition, took a clear stance against same-sex parenthood while being in favor of transgender parenthood, and said:

"...I don't think that we are ready, as a society, let's say... children are very cruel at such ages and say to another child: 'I have a daddy and a mummy and you don't; you have two daddies or two mummies'..."

b) Concerns related to the role of the parent

Several participants had positive perceptions regarding transgender parenthood.

The participant T10, a 38-year-old transman in incomplete transition, said:

"Whatever love is given, eh,... by a straight couple, is the same as the love that can be given by a trans person; in essence, eh, love or one's conduct does not change because of one's gender identity."

In the same vein, the participant T2, a 60-year-old transman in complete transition, bisexual, said:

"...gender identity has nothing to do with wanting to have a child."

In the same vein, the participant T7, a 36-year old transman in late transition, said:

"...Everyone is entitled to becom[e] a parent; what is necessary is for relevant legislation to be in place, as we said; what is necessary is to study the situation so some things are done correctly..."

Similarly, the participant T1, a 51-year-old transwoman in complete transition, said,

"This has nothing to do with gender; [both trans and cis] should have [a child], why not? They have love to offer, and many other things that everyone can give..."

c) The responsibility of raising a child

The participant T5, a 28-year-old transman in incomplete transition, pansexual, said,

"...It's a very big responsibility to be responsible for someone else..."

Moreover, the participant T9, a 29-year-old transman in complete transition, said,

"...[I would like], if something goes wrong, for example, that the child should be more my girlfriend's... but I think I generally prefer adoption."

d) The fears of themselves becoming harmful to their children (due to heredity or use of hormones)

Participants were of the belief that even if they had children, it is likely that they would blame themselves for how their children's lives might turn out due to heredity or even the use of hormone replacement therapy. The participant T5, a 28-year-old transman in incomplete transition as a pansexual stated,

"..I am bipolar, OK? I don't know if it is passed down, if it is hereditary..."

"... but, if my child told my 'Dad, I am trans',... I would not like the child to be subjected to the procedure I have been through..."

While the participant T12, a 52-year-old transwoman in incomplete transition was of the belief that a child raised by LGBT parents would receive only so much love and affection, she was afraid of the fact that the parent's hormone replacement therapy might negatively affect the health of the child.

"If you have taken hormones, then the child may be born with problems, which means it would have been better not to have had it... why bring a child with problems into the world, to suffer?"

e) The perceived need for clear (trans) parental identity seen through others' eyes

The participant T4, a 45-year-old transman in social transition was of the belief that a transgender individual should gain unambiguous social acceptance of his new gender identity before becoming a parent. The participant stated,

"[in the past] I did not think of becoming a father, because... there were people who could not accept [my male name], and I had to fight... I believe that trans-parents are also parents, but I think that for [a trans person] to start [the process of becoming a parent], everyone must have accepted this... trans person first."

In a similar vein, the participant T2, a 60-year-old transman bisexual stated,

"... First of all, you need to feel OK with who you are, to know who you are and where you are going and then [have a child]... They say that I should have completed the transition and then have children... And now, sometimes, they call me 'mamo'; my daughter [tells] her fiance: 'my mother is not like others, she is a trans-man; this is how we live..."

f) The transgender people's capacity to meet the needs of their children

The participant T6, a 27-year-old transman in incomplete transition focused on his chronic depression and stated,

"...I don't believe that I will ever reach the psychological stage of my life when I am going to want and be capable of raising a child (psychologically); I suffer from chronic depression and I don't know how this may affect a child's life."

The participant T1, a 51-year-old transwoman in complete transition focused on her characteristics, and stated,

"...I think I would be overprotective and possibly authoritarian; I might not be able to fully control and fully manage that..."

g) Adherence to heteronormative patterns of parenting (parent figures)

Participants perceived their adherence to heteronormative patterns of parenting as their motivations for rejecting same-sex and transgender parenthood. The participant T1, a 51-year-old transwoman in complete transition expressed her strong intuition-based prejudice against same-sex parenthood, and stated,

"...I cannot fully ratify this; I may be wrong - should I call myself a racist? I don't know why, but there is something I don't like about it; I cannot fully decipher it... I don't know exactly what it is. Is it being old school?..."

The participant T8, a 50-year-old transwoman in social transition placed considerable emphasis on naturalness, and stated,

"The child is going to see me as I am. What can I tell you? If I were in the child's place, I would like to have a mum and a dad!... Why should I do this? Isn't it selfish? ...It is a sacred thing, Christina!!! It is not only a social issue, but also a matter of nature! How can I explain this to you? To your eyes, what is nicer? A photo with mum, dad, grandpa and grandma or a photo with two transvestites? What can I tell you? What seems nicer to you??"

In conclusion, several of the aforementioned findings in this section (6) of the paper suggest that some transgender people have very low expectations about what parents they could become. Moreover, it is worth noting that we identified several sub-themes grouped under the base theme 'concerns related to child's welfare'. In our opinion, this reflects the assumption that transgender parenthood is a complex, complicated, and multidimensional issue.

4. Legal framework thought of as being less than perfect

The participant T1, a 51-year-old transwoman in complete transition, and the participant T3, a 23-year-old transwoman in late transition, focused on the fact that it is not possible under the current Greek legal framework for children birth certificate to be changed to include transgender parent's revised name or legal gender. As a consequence, the current legal framework 'prevents' transgender parents from applying for legal change of their gender identity.

Discussion

Lack of adequate fertility counseling

One of the problems often facing transgender people about fertility preservation or assisted reproduction is lack of information. Consistent with past literature, it was emerged from our study findings that a significant barrier to pursue fertility preservation or/and assisted reproduction techniques was providers' not counseling about fertility preservation options. As is anticipated above one of the participants reported having received adequate FP counseling before starting their transition, while six out of twelve participants indicated that they had not been given adequate information about their FP options.

Participants T3, T7 and T9 expressed regret about missed opportunities for fertility preservation.

Over the last decade many authors have highlighted the need for the vulnerable population of transgender adolescents and young adults to be provided with fertility counseling prior to initiation of medical transition process [7,10,22]. Already in 2012, Wierckx et al. had remarked that transgender people's fertility issues were not adequately addressed [23]. This still applies in the present day. Chen et al. (2019) found shortcomings in fertility counseling and providers who highlighted the need for standardized counseling protocols [24]. Interestingly, their findings indicated that transgender people may later regret not pursuing fertility preservation despite having previously received FP counseling. Fertility counseling should be highly prioritized as ethical, interdisciplinary practice [25,26]. Murphy (2012) argued that there is nothing objectionable that would justify closing off parenting options to transgender people [27]. The American Society for Reproductive Medicine (ASRM, 2015) stated that "transgender persons have the same interests as other persons in having children," and "providers should offer fertility preservation options to individuals before gender transition" [28]. The Ethics Committee of the American Society for Reproductive Medicine stated that transgender people's gender identity cannot be grounds for unequal treatment and that professional autonomy is not a sufficiently strong countervailing reason to justify an exemption. Despite multiple papers being written about the need for this issue to be addressed, all of the participants in this study felt that fertility preservation had not been offered.

Transgender people should be provided with 'enough information, support and opportunity to make an informed decision about fertility preservation' and the discussion should include 'a consideration of interweaving factors, particularly costs...' [7]. 'Detailed information about every option in the absence of any form of coercion and with ample time is essential for a person to make complex, life-changing decisions'. [26]. The importance of genetic relatedness is said it might be used as a 'heuristic through which to provide fertility counseling to transgender people' [29]. In the perspective of transgender people's fertility counseling it is highlighted health professionals communication with transgender people about desires related to reproduction [8]. Furthermore, transgender people should be informed that 'FP methods do not guarantee future access to medically assisted reproduction (due to the best evidence then available i.e. concerning the child's welfare) or successful reproduction' [10].

In addition, it should be highlighted that some children/pubertal children/adolescents/young adults may not yet be mature and competent enough to evaluate, on their own, whether to pursue fertility preservation [25]. Therefore, questions may arise regarding decision-making authority [10].

Desire to have biological children

Involuntary childlessness is associated with serious negative psychological effects: serious anxiety and stress, feelings of grief, social isolation, low self-esteem, and sexual dysfunction [30-32] Furthermore, in light of the

holistic-positive concept of health involuntary childlessness can be regarded as unhealthy situation.

Reproductive desire was high among the majority of the participants in the present study. Prior studies suggest that reproductive desire is as high among transgender people as it is in the general population [23, 28, 33]. However, among transgender adolescents, utilization rates of fertility preservation and reproductive options are presently impressively low [9, 34] though steadily rising [10,23]. In 2012 it was argued that 'research on transgender adults suggests that about half desire biological children..., and over a third would have considered FP had such technologies been available at the time of their transition' [23]. In our small sample this percentage was much greater. Lack of adequate FP counseling may partly explain these low rates [9].

Nevertheless, this topic seems to be much more complex. A U.S. study found that only two out of 72 transgender young people receiving fertility counseling prior to endocrine transition attempted fertility preservation [34], while a recent study with a Dutch cohort of transgirls found a much greater percentage attempting fertility preservation [35]. Persky et al. (2020) found that the majority of transgender youth were not willing to delay their hormonal transition for fertility preservation as they 'did not find having biological offspring important' [36]. Chiniara et al. (2019) arguably hypothesized that fertility may be a low life-priority for young transgender people. 'The majority wish to become parents but are open to alternative strategies for building a family' [37]. However, under the first-order desire to remain childless there may be the second-order desire to not delay gender transition. Participants T1, T5 and T6 were of the opinion that delaying gender transition to facilitate fertility preservation could have negative impact on gender dysphoria and hence it could be distressing. Chen and Simons (2018) put it best in saying 'Transgender adolescents pursuing hormones may be at particularly high risk for prioritizing short- versus long-term outcomes, putting them in jeopardy for later experiencing regret' [6]. At any rate, Nahata et al., 2017 arguably stated that 'more research is needed to understand parenthood goals among transgender youth at different ages and developmental stages and to explore the impact of gender dysphoria on decision-making about FP and parenthood' [34].

Barriers related to dysphoria

Transgender adolescents face several obstacles that get in the way of fertility decision making [24,25] including invasiveness of procedures, individual experiences of gender dysphoria, and desire not to delay medical transition [24,38]. De Sutter et al. (2002) found that while the vast majority of respondents were of the belief that fertility preservation should be offered to transgender women, 90% of respondents were of the belief that loss of fertility was not a strong reason to delay their transition [33]. This is in consistency with the aforementioned statement of Chiniara et al. (2019) [37].

In consistency with past literature, we found that among transgender people there are unique barriers to fertility preservation related to gender dysphoria. This was a significant theme that emerged from our data analysis because of the fact that there was a large number of comments provided in this category. Importantly, fertility preservation methods 'might reinforce transgenders' old sex or make them feel it does not fit with their new gender identity' [10]. Indeed, procedures required for obtaining fertility preservation (i.e. hormonal ovarian stimulation and transvaginal ultrasound that is a genitalia-specific procedure) may be experienced by transmen as having a negative impact on their gender dysphoria [39]. These procedures may heighten feelings of dysphoria, thus challenging the break up with the transgender people's old gender identity.

However, this is not always the case. Some transgender people may use several coping strategies, 'such as focusing on the reasons for undergoing fertility preservation, reaching out to friends and family for support and the cognitive approaches of not hating their body or using non-gendered names for their body parts.' [39]. Note, however, that the negative psychological effects of FP for transgender individuals may be caused by several reasons. Armund et al. (2020) found that health care professionals 'experienced important challenges to their professionalism when their preconceived opinions and values about gender and transgender were confronted' [40]. This may establish an unsafe environment for transgender people undergoing FP through various procedures, which may heighten their distress. Furthermore, the break up with the transgender people's old gender identity may be challenged by the fact that it cannot be ruled out that future child will be informed about its parent(s)' state of being transgender person [10]. At any rate, it is crucial to bear in mind that 'presently little is known about the psychological effects of fertility preservation for transsexuals' [10] and the number of the relative studies is still limited.

Barriers related to economic instability

Four (T3,T5,T7,T8) out of 12 participants in the present study believed that economic factors are major barriers to transgender parenthood. This is not unreasonable. The costs of fertility preservation are significant barriers because these procedures are typically not covered by insurance companies [25] Transgender people are particularly vulnerable to economic instability due to the high unemployment rate related to the mere fact of being transgender.

Barriers related to discrimination and bullying

This was one of the frequent themes and encompassed the sub-themes bullying during pregnancy and bullying by health professionals in birth settings. Five (T1, T3, T7, T9, T12) out of the twelve participants in our study expressed intense fear of discrimination and bullying in case of transgender parenthood. Across the globe, transgender people are extremely vulnerable population to physical and sexual violence and experience epidemic levels of stigma, discrimination, harassment and social rejection in almost every aspect of their daily life, including access to health care services. In Europe the European Union Agency for Fundamental Rights (2014) reported that around 20% of all trans respondents who accessed healthcare services or social services reported that had experienced discrimination for the same reason [41]. In Australia, despite the fact that in 2013 the Sex Discrimination Act was amended transgender individuals still experience discrimination and barriers to access to health care services [42]. Much of the same holds for Asia [43] as well as for Latin America and the Caribbean [44].

Canadian interview study found that transgender men face considerable discrimination throughout their pregnancy [45]. Riggs (2013) has found that transgender men who go through a pregnancy negotiate complex intersections between their masculinity and child bearing with their pregnant bodies being regarded by health care providers as female [29]. Giannou (2017) stated that in Greece transgender people often experience discrimination by healthcare providers when accessing healthcare services, ranging from disrespect or transphobic insults to outright denial of service [14]. This can be seen as a public health issue. It was emerged from our inductive analysis of study findings that stigma against pregnant transmen can be enacted in hospitals or midwifery units where pregnant transman have to go into to give birth. Importantly, this prejudice was going 'underground' and was expressed in more subtle, indirect, ways. This is not surprising, given the truth of the

assumption that anti-homosexual prejudice is no longer exercised in the traditional, 'old-fashioned' form (openly related to the adherence to 'naturalness'), but rather in the modern subtle, 'non-discriminative' form [46]. The findings related to discrimination or bullying by health professionals call for efforts on the part of the health service system to provide equal access to fertility and reproductive health services for transgender people. For instance, Armuand et al. (2017) argue that health professionals may 'alleviate distress by using a gender neutral language and the preferred pronoun' [39].

Furthermore, transgender people's children are vulnerable to discrimination and bullying. Although best evidence currently available does not support inherent risks for the welfare of the child of a transgender person, there may be external risks for the welfare of the child based on social discrimination and stigma [10]. Having children is strongly related to the stereotype of heteronormativity.

Barriers related to parenting and child's welfare

This was a frequently recurring theme in our interview data analysis. Among several participants in our study there were barriers to having children related to children's welfare. The reported barriers were of various types and can be fit into the following three sub-themes:

a) Barriers related to social environment

(Prejudice against children)

Although the best evidence currently available does not support the notion that there are inherent risks to the welfare of the child of a transgender person, there may be external risks to the welfare of the child based on social discrimination and stigma [10], as having children is strongly related to the stereotype of heteronormativity.

b) Barriers related to transgender parents themselves

(Transgender people feel incapable of being good parents or potentially harmful to their offspring)

The majority of participants in our study felt incapable of meeting the standards of good enough parenting or they were perceiving themselves as potentially harmful to their children. From the analysis of their statements and their relative non-verbal behavior patterns we got a sense that they drew unfair conclusions about their parental capacity based on low self-esteem. Internalized transphobia may negatively impact on self-esteem [47] and hence, limit transgender people's (reproductive) autonomy [48]. This may be the real reason behind the unwillingness of transgender people to become parents. Transgender individuals' parental role is a complex issue. Petit et al. (2017) stated: '...trans parental identity appeared as a multidimensional, multidetermined, nonbinary, and fluid identity in a context of nonalignment between the sex assigned at birth and gender identity' [49]. This may heighten feelings of parental incapacity.

c) Barriers related to transgender individuals' values

(Adherence to patterns of the dominant culture)

According to the findings of the present study, transgender individuals may have not only new but also old understandings of patterns related to parenthood, as biological relatedness and parenting figures. This finding is

consistent with past literature related to issues of LGBT parenthood [50].

Transmen: Cryopreservation of oocytes

Transmen participants in our study touched upon some aspect of oocyte cryopreservation. It is of great importance that little is known about transgender men's experience of fertility preservation procedures such as cryopreservation of oocytes due to lack of previous empirical research on the particular topic [39]. Note, however, that transmen use contraception and can experience pregnancy, even after having socially, medically, or both transitioned [51]. Importantly, Insogna, Ginsburg and Srouji (2020) state that 'adolescent transgender males who choose to undergo oocyte cryopreservation tolerate the process well' [52].

Transwomen: Envisioning the perspective of uterus transplantation

The participant T1 (transwoman) said that a uterus transplant at a younger age would make him/her feel 100% woman. Robertson (2017) argues that procreative liberty only supports a right to gestate when sought for genetic reproduction, and hence, the claim of a transgender woman desiring a uterus transplant for having the woman-specific experience of gestation is not strong enough to undergird a positive right [53]. Notwithstanding, Alghrani (2018) argued that procreative liberty does extend to a right to gestate [54].

Rigorous psychological evaluation is required

A careful, in-depth psychological evaluation would contribute important information to the understanding of the operant reason behind a transgender individual's attitude towards fertility matters. The participant T9 in our study, a 29 year-old transman in complete transition, in the short time frame of an interview reported four reasons for his/her unwillingness to consider fertility preservation options or assisted reproduction techniques. The participant gave ground for assuming that these reasons (mentioned elsewhere in this paper) were considered equally strong. For instance, the participant's attitude might result from mechanisms as ex-post realization or over-generalization of hard-wired perceptions.

Strengths and limitations

This research is significant in that to our knowledge it is the first to directly examine the transgender people's attitudes towards the use of fertility preservation options or assisted reproduction techniques.

However, our study has two primary limitations: First, our findings cannot readily be generalized to larger populations because of the small number of our participants. However, the findings of this study might be applicable to other transgender people. Second, the participants in this study were reflecting on their past experiences, which, for some, occurred more than 10 years prior to being interviewed. Recall bias, may have distorted the recollections of their experiences of considering fertility preservation options or assisted reproduction techniques.

Implications for research and practice

The results emerged from our inductive analysis of study findings may have implications for both research and clinical practice. These results might provide guidance for professionals handling of transgender people's

applications for medically assisted reproduction and fertility preservation. At any rate, our findings might heighten awareness and stimulate debates over ethical topics related to our research questions.

Already, some research hypotheses are formulated in this paper, as follows:

The statement of the participant T4 (mentioned above in 3c, under the subheading 'Type of transition and desire to pursue FP and ART') gives us the opportunity to create the following hypothesis for further research. While transmen are not willing to get pregnant, this is probably not the case for those in social transition. Further, we hypothesize that those transgender individuals considering or going through social transition and hence, not placing considerable emphasis on the value of gender-related bodily features, are much more willing to pursue FP or ART than those considering or going through medical transition. In our opinion, this hypothesis is supported by the aforementioned participant T9 (a transman) who was unwilling to disclose the storage of his/her oocytes to his/her partner while being in complete medical transition. The truth of the above presented hypothesis that emphasizes the association between the type of transition and the willingness to get involved in creating a child remains to be tested.

The statement of the participant T12 (mentioned above in 4., under the heading 'Reasons behind the desire for biological parenthood' raises the question as to whether transgender people should be classified as a separate group of the LGBT community and whether the data related to transgender individuals should be analyzed separately.

The statements of the participant T8 (mentioned above in 4., under the heading 'Reasons behind the desire for biological parenthood') allows us to formulate the following hypothesis for further research: Transgender individuals who are in social transition show a greater adherence to the dominant culture than those in medical transition, at least in the context of reproduction.

Finally, we stress the need for further empirical research into transgender men's experience of fertility preservation procedures such as cryopreservation of oocytes

Conclusion

The results demonstrate the importance of a) contextual factors (stigma, economic instability, law), b) factors related to transgender people themselves (gender dysphoria, desire to become parents, self-trust), as well as c) the preferred type of gender transition in considering or pursuing FP or ART. The results allow us for hypothesizing that transgender individuals in social transition are much more willing to pursue FP or ART (or get pregnant when it comes to transmen) than those in medical transition. Transgender people's attitude towards having children is a complex topic in need for further investigation. We stress the need for training health professionals to establish a safe environment for transgender people who want to undergo fertility treatments, go through pregnancy and give birth.

The findings of this study call for efforts on the part of the fertility and reproductive health service system to support and provide equal access to fertility and reproduction-related services for transgender people. Addressing the barriers to transgender parenthood that are documented in this article will require policy initiatives and a social justice approach toward transgender individuals' health and human rights. Health

providers can play a crucial role in this process. Therefore, the need is highlighted to establish standardized protocols and provide necessary training to physicians.

Declarations

Footnotes

¹ The term 'transition' will be used to refer to all types of medical (endocrine or surgical) transition. The term 'social transition' is used to reflect the specific type of gender transition. The participants in 'social transition' selected not to undergo medical treatment, believing that a change in gender role or behavior would be of itself, sufficient.

² In terms of 'complete' and 'incomplete' transition we mean participants perception of their transition completion. At the time of the interview, participants mentioned as being in 'incomplete transition' were reported to be on the road towards what they considered full transition.

Ethics approval and consent to participate

The study and consent procedure was approved by ethics committee affiliated to Aristotle University of Thessaloniki, Faculty of Health Sciences, Department of Medicine (No: 2.128 / 27-02-2019).

Consent to publish

Not applicable.

Availability of data and materials

Transcripts of the full interviews collected and qualitatively analysed in the current study are not available due to the ease with which study participants could be identified. Redacted transcripts can be made available upon request.

Competing interests

The authors declare that they do not have any conflicts of interest to disclose.

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Author's Contributions

PV was responsible for the study conception, data analyses, ethical analysis of findings, writing the paper and report of the study. C-EZ was responsible for the data collection. All authors were involved in the data analysis and revisions of the paper. All authors have read and approved the final manuscript.

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Abbreviations

FP = Fertility Preservation

ART = Assisted Reproductive Technology

IVF = In Vitro Fertilization

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Table

Table 1
Demographics items: Counts and percentages.
Variable

Age (years)	
<30	4 (33%)
30-50	5 (42%)
>50	3 (25%)
Mean (SD)	40 (11)
Minimum–maximum	23-60
Self-reported gender identity	
Transmen	8(66%)
Transwomen	4(34%)

Residence place

Athens	3(25%)
Thessaloniki	4 (33%)
Other place	5 (42%) [Including Northern Greece and Crete, one was from Cy

Type of transition

Medical	10 (83%)
Social	2 (17%)

Transition stage

Incomplete	9 (75%)
Complete	3 (25%)

Children

Have children	1(8,3%), has 3 children from previous relationship
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Education

Less than high school	None
High school graduate	10 (83%)
Post-high school education	2 (17%)

Sexual Orientation

Heterosexual / Straight	10 (83,3%)
Homosexual / Gay	0
Bisexual	1 (8,3%)
Pansexual	1(8,3%)

Sex work

Yes	1(8,3%)
No	11(91,7%)

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