Journal of Adolescent Health 61 (2017) 120–123

ELSEVIER

JOURNAL OF ADOLESCENT HEALTH

www.jahonline.org

Adolescent health brief

Fertility Preservation for Transgender Adolescents

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Article history: Received November 15, 2016; Accepted January 23, 2017
Keywords: Transgender adolescents; Fertility; Fertility preservation; Transgender medicine; Gamete cryopreservation

A B S T R A C T

Purpose: To describe fertility preservation (FP) utilization by transgender adolescents within a pediatric gender clinic between July 2013 and July 2016.
Methods: A retrospective chart review was conducted to abstract demographic and clinical information among adolescents initiating gender-affirming hormones, including patient age at initial FP consultation, birth-assigned sex, race/ethnicity, and outcome of FP consultation.
Results: In our sample of 105 transgender adolescents, a total of 13 (seven transgender men and six transgender women) between the age of 14.2 and 20.6 years were seen in formal consultation for FP before initiating hormones. Of these adolescents, four completed sperm cryopreservation and one completed oocyte cryopreservation.
Conclusions: Rates of FP utilization among transgender youth were low, which is consistent with a recently published report of FP utilization among transgender youth at another pediatric institution. Identified barriers to FP in our sample included cost, invasiveness of procedures, and desire not to delay medical transition.

IMPLICATIONS AND CONTRIBUTION

This is one of the first descriptive studies of transgender adolescents referred for fertility preservation (FP) consultation and highlights major barriers to FP for this population, including cost, invasiveness of procedures, and desire not to delay medical transition. By identifying barriers to FP, access to reproductive technologies will be improved.

As public awareness of gender diversity has increased over the last decade, more transgender youth are seeking health care services to support medical transition. While gender-affirming hormones (i.e., estrogen for birth-assigned males; testosterone for birth-assigned females) are indicated to alleviate gender dysphoria [1], side effects include impairments in gonadal histology that may cause infertility or biological sterility [2–4]. Estrogen use by transgender women results in impaired spermatogenesis and an absence of Leydig cells in the testis [3]. Testosterone use by transgender men causes ovarian stromal hyperplasia [2,4] and follicular atresia [2]. Gonadal effects of hormones are thought to be at least partially reversible, and pregnancy has been reported in transgender men who have previously used testosterone [5]. However, thresholds for

Conflicts of Interest: The authors have no conflicts of interest to disclose.
Disclaimer: The study sponsors had no role in the (1) study design; (2) the collection, analysis, and interpretation of data; (3) the writing of the report; and (4) the decision to submit the manuscript for publication.

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1054-139X/
http://dx.doi.org/10.1016/j.jadohealth.2017.01.022

amount and duration of exogenous hormone exposure causing permanent negative effects on fertility have not been established. Thus, the World Professional Association of Transgender Health [1] recommends counseling regarding fertility and reproductive options before initiating hormone treatment.

As fertility preservation (FP) and assisted reproductive technologies become more recognized as viable options to address the reproductive needs of the transgender community [6], an increasing number of transgender adults are being referred for FP [7]. Research on the reproductive desires of transgender adults, albeit limited, suggests that about half of adult transgender men [8] and transgender women [9] desire biological children, and over a third would have considered cryopreserving gametes had techniques been previously available [8]. However, little is known about the reproductive desires of a growing population of transgender youth initiating hormones during adolescence. To address this gap, we conducted a retrospective chart review to describe FP utilization among transgender adolescents initiating hormones within a pediatric gender clinic between July 2013 and July 2016.

Method

Study approval was obtained from the Ann and Robert H. Lurie Children's Hospital of Chicago Institutional Review Board. Charts of all patients initiating hormones within our Gender & Sex Development Program (GSDP) between July 2013 and July 2016 were identified and reviewed. During this period, 28 birth-assigned males were started on estrogen and 77 birth-assigned females were started on testosterone for medical transition. All patients and their parents (if minors) were provided with counseling regarding the potential impact of hormones on fertility and availability of options for FP by GSDP medical and mental health providers and subsequently offered the opportunity for further consultation with a fertility specialist.

Before January 2015, patients and families expressing interest in a formal FP consultation were referred directly to adult fertility specialists at Northwestern Medicine (NM). Starting from January 2015, interested patients and families were first referred for consultation with Lurie Children's in-house FP advanced practice nurse (APN; who primarily works with the oncofertility population) with subsequent referral to adult fertility specialists at NM for those interested in pursuing FP. Chart abstraction included patient age at initial FP consultation, birth-assigned sex, race/ethnicity, and outcome of FP consultation, including reasons for not preserving fertility if documented.

Results

In our sample of 105 transgender adolescents initiating hormones, a total of 13 (12.4%) were seen in formal consultation for FP by a fertility specialist. Seven patients identified as transgender women (birth-assigned males affirming a female identity) and six patients identified as transgender men (birth-assigned females affirming a male identity). Average age at initial FP consultation was 16.5 years (range 14.2–20.6 years) and did not differ significantly between transgender men (mean = 15.9 years, standard deviation = 1.6) and transgender women (mean = 17.2 years, standard deviation = 1.8). Two patients expressed interest in FP before January 2015 and were referred directly to NM, whereas 11 patients had an initial consultation with Lurie Children's FP APN. Of these 11 patients, five proceeded to meet with specialists at NM. Thus, a total of seven patients (five transgender women and two transgender men) met with adult fertility specialists, with four patients completing sperm cryopreservation and one patient completing oocyte cryopreservation successfully. Among those meeting with adult fertility specialists, one patient elected not to pursue sperm cryopreservation following a negative experience with a sperm bank technician misgendering her and reportedly treating her disrespectfully, and one patient elected not to proceed with oocyte cryopreservation owing to cost. See Table 1 for a detailed description of demographics, FP utilization, and reasons for declining FP among each adolescent in our sample.

Discussion

There is growing recognition that fertility and FP are important considerations among transgender adults when seeking hormonal/surgical interventions [6–9]. However, limited research addresses the reproductive desires of a growing and increasingly visible population of transgender youth who are initiating hormones in adolescence. This study, together with the paper by Nahata et al. [10], begins to address this gap by documenting utilization of fertility-related care and highlighting barriers to FP in this population. Consistent with the findings by Nahata et al. of low FP utilization among transgender adolescents, a smaller proportion of our adolescent transgender population pursued fertility-related specialty care than would be expected based on the adult literature [8,9], with 12.4% pursuing a formal FP consultation and just under 5% cryopreserving gametes. Across both samples, more transgender women than transgender men completed FP [10]. This common finding is not surprising given that the two major barriers to gamete cryopreservation identified in our sample were cost and invasiveness of procedures, identified by two and three of the six transgender men who declined FP following formal consultation, respectively. Cost and discomfort with FP procedures also were cited in the sample by Nahata's et al. [10] as barriers to FP. Notably, while invasiveness of oocyte cryopreservation is an oft-cited barrier to FP among other patient populations, we would assert that it poses unique challenges among transgender men, who often experience significant body dysphoria related to their genitals and reproductive organs. FP for transgender men requires 10–14 days of daily hormone injections to stimulate follicular development, monitoring via transvaginal ultrasounds, and oocyte retrieval using ultrasound-guided transvaginal aspiration of follicular fluid [11]. In contrast, none of the transgender women in our sample cited physical discomfort related to producing a sperm sample as a barrier to FP.

Nahata et al. [10] also hypothesized that some youth presenting to gender clinics may feel a sense of urgency to move forward with medical transition, and initiating hormones may be prioritized over other considerations, including fertility and FP. We agree that this possibility warrants further research. Anecdotally, our team has documented several interactions with youth who noted that after medical transition with hormones and exploration of romantic relationships when more comfortable in their bodies, they felt more emotionally capable of considering future parenting desires. Thus, exploring decisional regret associated with declining FP and quality of life in adulthood should be prioritized in future research.