When sperm and egg aren't bedfellows: The WHNP role in helping families conceive

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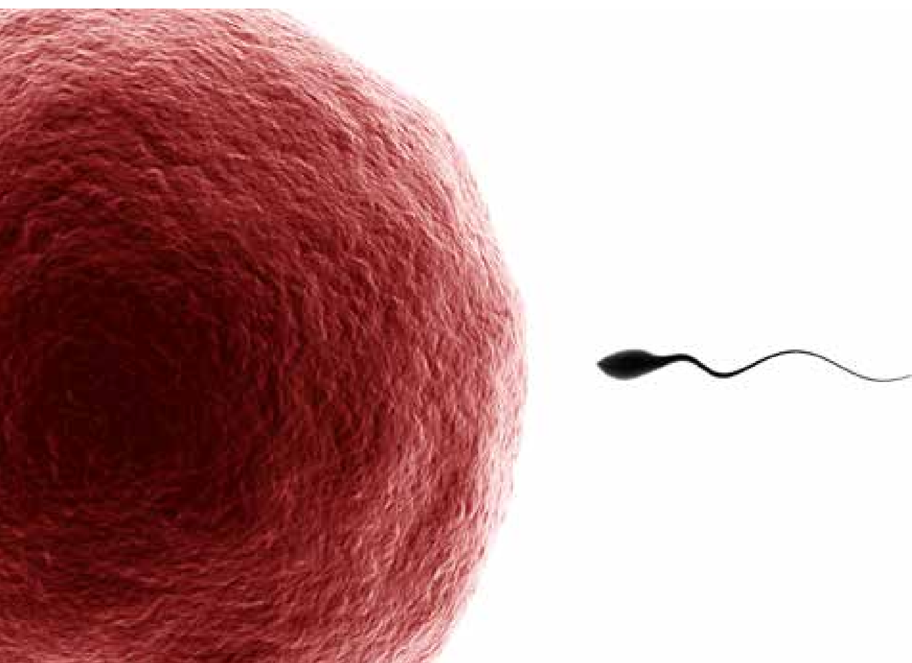
Individuals and couples without a sperm-producing partner, including lesbian women, single women, and trans-masculine or nonbinary persons, may seek advice from a woman's health nurse practitioner about how to conceive a child. The authors discuss barriers to conception that these individuals and couples face, strategies for overcoming these barriers, and a step-by-step decision-making process for use with patients.

KEY WORDS: **lesbian, single mother by choice, conception, intrauterine insemination, intracervical insemination, trans-masculine, nonbinary**



In recent years, the concept of family has evolved beyond the traditional view of a married, cisgender, heterosexual couple—that is, a woman and a man—and their children. Women's health nurse practitioners (WHNPs) who provide reproductive healthcare are now likely to see a variety of non-traditional individuals and couples who wish to build a family but who face a variety of obstacles, especially if they want to do so by conceiving and carrying a pregnancy of their own. For example, lesbian couples, single women of any sexual orientation, and transgender individuals who have a uterus and who want to conceive face unique challenges with respect to the need to acquire sperm other than through having sexual intercourse with a sperm-producing partner.

One focus of this article is to describe barriers to conception for individuals who have a uterus but do not have a partner with sperm, as well as strategies for overcoming these barriers. A second focus is to provide information that WHNPs can use to facilitate discussions about conception options with individuals and couples desiring pregnancy when a partner with sperm is not part of the picture. *Box 1* provides definitions for sex- and

gender-related terminology used in this article.

Barriers to conception

Individuals with a uterus or couples with at least one member with a uterus—but no readily available sperm—may be unaware of available options to help them conceive. Or they may know the options but do not know anyone who can provide them with nonjudgmental and nonbiased care in an environment where they feel respected. Some transgender individuals with a uterus may have questions about conceiving before starting gender-affirming hormone therapy or having gender-affirming surgery and do not know whom to ask. Many women—regardless of their sexual orientation or gender identity—who lack a male partner and desire pregnancy face barriers to open discussion about conception options. Such barriers stem from biased attitudes of healthcare providers (HCPs), their own families, their faith communities, and society about whom should become pregnant and who is needed to constitute a family. In addition, lack of regulation in the fertility industry and lack of legal protections for nontraditional families in many states compound the issues. If individuals seeking assisted reproduction are low income and/or nonwhite or lack health insurance, they may face even stronger biases against them.[1]

Lesbian/bisexual/queer (LBQ) women and transgender/nonbinary (TNB) persons with a uterus who wish to become pregnant may face more challenges meeting their healthcare needs than, say, heterosexual, cisgender, single women. The former individuals may have encountered stigmatization and/or discrimination when seeking healthcare in the past or they may have been refused care from some healthcare facilities and HCPs. Even if their HCPs are not biased per se, they may lack knowledge about how to attend to LBQ/TNB individuals' reproductive healthcare needs and also fail to initiate conversations about fertility and reproductive planning.[2] Such environments may make it difficult for these individuals to feel comfortable inquiring about conception options, particularly if they fear that an HCP may refuse to provide any reproductive assistance to them. This barrier is further evidenced by the increased propensity of LBQ persons to seek health information online.[2]

To compound the problem, single women and LBQ/TNB individuals may have difficulty getting health insurance coverage for reproductive assistance (eg, obtaining sperm and undergoing noncoital insemination). Coverage for reproductive assistance may be limited to persons with a diagnosis of infertility that requires a couple to have failed to conceive after having unprotected sexual intercourse for a certain amount of time. Transgender males who have legally changed their gender marker but who still have a uterus may face issues around gender-incongruent coverage from their health insurance provider.

Box 1. Language and terminology

Sex and gender

- Natal sex: sex assigned at birth.
- Sex: designation based on a person's genital presentation (ie, male, female, intersex), chromosomal makeup, and hormonal makeup. In this context, binary definitions of male and female no longer meet scientific rigor.
- Gender identity: the way in which people define themselves, generally with regard to the masculinity-femininity continuum, regardless of designated sex at birth.
- Transgender: having a gender identity that differs from one's natal sex. Transgender persons may have a binary or a nonbinary gender identity.
- Nonbinary: umbrella term for persons who have a gender identity that is not solely male or female. Nonbinary persons may identify simultaneously or alternately as both male and female or as neither male nor female, or they may have another unique relationship to the concept of gender.
- Agender: not identifying with the concept of gender at all.
- Cisgender: having a gender identity that aligns with one's natal sex.

Sexual orientation (romantic and/or physical attraction)

- Lesbian: a person who identifies as female and is primarily or exclusively attracted to persons who identify as female.
- Bisexual: a person attracted to others who identify as female or male.
- Queer: an umbrella term for persons with a nonheterosexual sexual orientation. This term itself is nonbinary; attraction is not limited to persons who identify as female or male. The term "queer" has been historically used as a derogatory slur and should be used with care by those who do not identify as queer. The Q in LGBTQ denotes queer as well as questioning. Questioning refers to individuals exploring their sexual orientation and/or gender identity.

Strategies for overcoming barriers

Creating a nonjudgmental and nonbiased clinical environment where every patient can feel comfortable asking about conception options takes a concerted effort. An intentionally welcoming environment features posters and other artwork

Box 2. Resources for prospective parents

- Family Equality. LGBTQ family building grants: familyequality.org/resources/lgbtq-family-building-grants/[A].
- Family Equality: Family building for the trans community: familyequality.org/resources/family-building-for-the-trans-community/[B].
- Selix NW, Rowniak S. Provision of patient-centered transgender care. *J Midwifery Womens Health*. 2016;61(6):744-751.
- ACOG committee opinion no. 749. Marriage and family building equality for lesbian, gay, bisexual, transgender, queer, intersex, asexual, and gender nonconforming individuals. *Obstet Gynecol*. 2018;132(2):e82-e86.
- Ethics Committee of the American Society for Reproductive Medicine. Access to fertility treatment by gays, lesbians, and unmarried persons: a committee opinion. *Fertil Steril*. 2013;100(6):1524-1527.

that depict inclusive images of parenthood and families, an accessible gender-neutral bathroom (and clear signage indicating its location), and a visible nondiscrimination statement. Intake forms should have inclusive options for gender identity, pronoun, and relationship status. Phone staff and front desk staff should learn to use patients' correct names and pronouns. WHNPs and other HCPs in the practice should learn to ask appropriate questions about how patients refer to their own relationships and anatomy and to reflect that language in patient-centered care. *Box 2* lists websites and other resources that can facilitate creation of an inclusive clinical environment.

From preconception to conception, step by step

History taking and general preconception care

When both members of a couple desiring conception have a uterus, the first question to answer may be "Which one will carry the pregnancy?" This decision should be based on the couple's wishes, but the couple may look to the WHNP for guidance about which person, based on age and health status, is more likely to have a healthy pregnancy and a safe childbirth experience. Some partners may wish to attempt pregnancy at the same time to increase their chances of conceiving, or they may plan to stagger their pregnancies so that both of them have an opportunity to carry a pregnancy. WHNPs should not make assumptions about who will or should carry a pregnancy based on gender presentation or gender identity alone. For example, for a couple composed of a cisgender woman and a transgender man, the transgender partner may be more interested in or more suitable for carrying the pregnancy than the cisgender partner.

As in any preconception visit, WHNPs should ask a series of questions to ascertain whether the partner choosing to carry the pregnancy has a history of or risk factors for infertility. For many couples requiring assisted reproduction, no infertility factors are present. They simply need assistance acquiring sperm and getting inseminated. As such, common definitions of infertility that include 6 to 12 months of unprotected intercourse are not applicable.

Again, as in any preconception visit, WHNPs need to consider the medications that the prospective pregnancy carrier is taking and provide accurate counsel about when to discontinue any medications that are incompatible with a healthy pregnancy. TNB individuals may be taking exogenous testosterone as part of their gender affirmation. According to data that are scant and old, testosterone is considered teratogenic and should be discontinued during pregnancy.[3] Potential risks may include increased risk for intrauterine growth restriction, as has been seen in the pregnancies of women with polycystic ovary syndrome, or virilization of a female fetus.[3] Although no data are available to guide recommendations for when to discontinue testosterone therapy, some experts advise users to wait 3 months before attempting pregnancy.[4] This advice allows for adequate tracking of fertile signs prior to insemination attempts. WHNPs should keep in mind that adverse psychological consequences may occur if TNB individuals discontinue testosterone.[3,5] At the same time, WHNPs should not assume that adverse psychological consequences will ensue. They should simply ask these individuals what the experience means to them and to let them know that their process will be honored and supported.[6]

In most cases of noncoital reproduction, the potential parent or parents pay for sperm, as well as for the insemination process, and want to maximize their chance of conceiving with each insemination. Those who have discontinued testosterone to try to conceive may want to minimize the amount of time they spend off testosterone to lessen the duration of dysphoria or distress. For these reasons, timing of insemination and careful tracking of fertile signs is especially important.

As with any preconception, prenatal, or postpartum visit, WHNPs need to assess each patient's support system. This need is especially

Box 3. Resources for prospective parents

- Still Trying.... LGBTQ Fertility Support Group: lgbtqpn.ca/groups/[C]
- choiceMoms.org[D]: (for single women wanting to build a family)
- Donor Conception Network: dcnetwork.org[E] (offers education and support for anyone creating a family with a donor)
- Single Mothers by Choice: singlemothersbychoice.org[F] (resources for single women interested in creating a family)
- Queer Birth Project: queerbirthproject.org/[G] (support groups and resources for LGBTQ families from family planning to parenting)

important in patients without a sperm-producing partner, because some of them may be experiencing confusion or outright rejection from their families of origin and/or their faith communities. In addition, LBQ/TNB individuals may have a chosen family in which parenting is an anomaly and therefore risk compounding their isolation when choosing to carry a pregnancy. Further, many LBQ/TNB individuals have had multiple healthcare visits that resulted in unpleasant experiences. Therefore, gaining and maintaining trust is crucial. *Box 3* contains a list of resources for potential parents.

Achievement of conception

The major steps are acquiring sperm, choosing the route of insemination, and selecting the timing and number of inseminations. Sources of sperm include sperm banks, directed donors known to the individual/couple wanting to conceive, and having sexual intercourse outside a relationship with intent to become pregnant. Depending on the chosen sperm source, anticipatory guidance may include different components.

Sperm banks and their donors

Sperm banks may vary in terms of the availability of donors with certain racial or ethnic backgrounds. They may also vary in terms of their donors' desire for anonymity or for disclosing their identity at some point to a child conceived in this way. Prices for semen vary according to the bank and possibly according to donor willingness to be available for contact with the future child. When sperm are obtained through a sperm bank, regardless of whether the donor authorizes contact with the future child, legal conditions waiving parental rights and duties of the sperm donor are typically in place.

Semen obtained from a sperm bank is frozen and quarantined for a period of time while the donor is re-tested for sexually transmitted infections (STIs). Although evidence to support higher conception rates with fresh versus frozen sperm is inadequate, fresh sperm do live longer inside the reproductive tract. Sperm banks do not facilitate the use of fresh sperm unless it originates from the individual's legally married partner. As such, frozen sperm are the only available option for this demographic. This information may lead some individuals to explore a different route to obtaining sperm.

Directed donors

A directed donor is a person already known to the intended parent or parents. Prior to using sperm from a directed donor, the individual or couple should seek legal counsel to explore a parental rights agreement and determine whether their state recognizes such agreements.[7] Individuals or couples who choose a directed donor must consider whether they want to use fresh sperm or freeze the sperm to go through the same quarantine processes as a sperm bank. With a known donor, the individual or couple may want to consider having a semen analysis done prior to attempting to conceive.

Sexual intercourse

Another option for an individual to obtain sperm is by engaging in coitus with a person outside of a romantic relationship. Individuals who choose this route should ask the person with whom they plan to have coitus to obtain STI and HIV testing beforehand, following an appropriate window period from any potential exposure. In addition, individuals should be aware that utilizing this approach, as opposed to sperm donation with an imposed quarantine period, poses a risk of infection transmission. Finally, prior to using this method of conception, those choosing this route should seek legal counsel regarding parental rights and responsibilities.

Route of insemination

Sperm can be placed in the vagina (intravaginal insemination [IVI]), at the external cervical os (intracervical insemination [ICI]), or directly into the uterus via catheter (intrauterine insemination [IUI]). Prior to insertion via IUI, the sperm must be washed using a special solution and centrifuge to remove seminal fluid. This procedure is done by the sperm bank prior to freezing or by the provider performing the insemination. Although IUI seems to be more successful than the other routes in couples with unexplained infertility, the data regarding this superiority are not clear.[6] A 2018 review indicated insufficient evidence to determine a difference in live birth rates between

IUI and ICI in natural cycles or in cycles stimulated with gonadotropins in persons using donor sperm.[8]

Timing and number of inseminations

To optimize timing of insemination, individuals should monitor their fertility using a fertility awareness-based method (FABM) or a urine test for detecting a surge in luteinizing hormone (LH).[9] FABMs include tracking menses, basal body temperature, cervical mucus, cervical position, and other fertile signs. LH testing is optimally begun on cycle day 7 and can be used along with other FABMs. Data regarding optimal timing of insemination in relation to the LH surge are minimal and typically account only for individuals already experiencing subfertility.[10] Some studies show a higher pregnancy rate when insemination occurs on day 1 (rather than day 2) following the LH surge. No difference was noted, however, between the two insemination times with regard to number of live births.[8]

A few studies have shown that conception rates are increased with the addition of a second IUI or ICI along with a primary IUI per cycle. A recent large study, however, showed no benefit to a second insemination for those without a diagnosis of infertility.[11,12] If a second IUI is conducted, it is not clear when this should occur, and a second insemination can significantly increase cost without clear evidence of benefit.

Implications for practice

Women's health nurse practitioners offering reproductive care can provide conception care at a variety of levels for LBQ/TNB individuals and couples. WHNPs may choose to provide preconception counseling and information regarding available reproductive assistance. They may counsel on IVI or ICI for individuals and couples who choose to go this route on their own. They may consider providing insemination services within their clinical practice. If so, they should first review any scope-of-practice issues within their state, professional liability insurance coverage, and billing considerations. Persons without a sperm-producing partner should be able to create a family, and WHNPs can create trusting and nonjudgmental environments for patients to receive care. ●

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Web resources

A. familyequality.org/resources/lgbtq-family-building-grants/
B. familyequality.org/resources/family-building-for-the-trans-community/
C. lgbtqpn.ca/groups/
D. choicemoms.org
E. dcnetwork.org
F. singlemothersbychoice.org
G. queerbirthproject.org/