Review Article

Reproductive Health Considerations in Sexual and/or Gender Minority Adolescents

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A B S T R A C T

Disparities exist in the area of reproductive health for lesbian, gay, bisexual (LGB), and transgender and gender nonconforming (TGNC) adolescents compared with cisgender, heterosexual adolescents, particularly related to pregnancy and pregnancy risk factors. Review of the literature indicates an estimated increased risk of adolescent pregnancy involvement between 2 and 10 times higher for LGB youth compared with heterosexual youth. This might be explained by a broad spectrum of sexual health risks experienced, including an earlier age of sexual debut, exposure to sexual abuse, and a higher number of sexual partners. TGNC youth face conflict with their gender identity and potentially their sexual orientation. It is likely that their experience is similar to cisgender LGB adolescents as it pertains to reproductive health considerations. TGNC adolescents additionally confront the added challenge of fertility preservation. Health care providers play an important role in identifying and addressing these risk factors to improve the health of LGB and TGNC adolescents. Unfortunately, whether implicit or explicit, bias among health care providers exists and affects patient care. We believe it is the responsibility of health care providers to be informed about the increased needs of these patients and to provide appropriate risk-reducing management while using inclusive and sensitive history-taking and language.

Key Words: Adolescent pregnancy, Sexual minority, Gender minority, Pregnancy, Sexual health, Reproductive health, Transgender and gender nonconforming

Introduction

According to the World Health Organization (WHO), sexual and reproductive health are integral aspects of overall health, affecting physical, mental, and social well-being. Reproductive health encompasses the normal and abnormal reproductive systems, including their structure and function, at all stages of life. This includes the ability to have a safe and satisfying sexual life and to reproduce without limitation if desired.[1]

Despite the continued effort of the WHO to improve, protect, and promote the sexual and reproductive health of all people, much work remains to be done in this area. This is certainly true for the reproductive health of people who identify as lesbian, gay, bisexual (LGB). Similarly, individuals who are unsure about their sexual identity and those who have same-sex sexual partners but do not identify as LGB are at increased reproductive health risk. All of these individuals can be grouped together under the umbrella term, "sexual minority" (refer to Table 1 for a quick reference of terms and definitions).[2] In addition to the many reproductive health obstacles that heterosexual individuals encounter, they must also deal with sociocultural barriers imposed on the basis of their sexual orientation.

Gender minority (transgender and gender nonconforming) adolescents might experience reproductive health challenges related to gender identity development and sociocultural stigma. A high proportion of gender minority adolescents also identify as sexual minorities.[3,4] Irrespective of how they ultimately sexually self-identify, gender minority young people might be questioning their gender and sexual orientation, resulting in a predisposition to reproductive health risks as sexual minority adolescents. Gender minority adolescents receiving or seeking gender-affirming medical treatments including gonadotropin-releasing hormone agonist therapy for puberty suppression, hormone therapy, and/or surgery have unique reproductive health needs related to fertility preservation and family-building.[5]

Reproductive health becomes relevant first in adolescence when individuals generally begin to consider and develop their sexual identity (composed of attraction, behavior, and orientation). This stage of development is particularly challenging for youth and adolescents who identify as a sexual or gender minority. For some time, and often in adolescent years, there is discordance among the elements of sexual identity, which makes research in this area complex. Perceived limits to one's reproductive potential is a possible factor that affects an individual's

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Table 1
Quick Reference of Terms and Definitions

Term	Definition
Sexual minority	Umbrella term to encompass people who identify as LGB and individuals who are unsure about their sexual identity and those who have same-sex sexual partners but do not identify as LGB
Bisexual	A person who has the capacity to form enduring physical, romantic, and/or emotional attractions to those of the same gender or to those of another gender
Lesbian	A woman whose enduring physical, romantic, and/or emotional attraction is to other women
Gay	Adjective used to describe people whose enduring physical, romantic, and/or emotional attractions are to people of the same gender (eg, gay man, gay people)
Heterosexism	System of attitudes, bias, and discrimination in favor of opposite-sex sexuality and relationships, including the presumption that other people are heterosexual or that opposite-sex attractions and relationships are the only norm and therefore superior
Gender minority	Umbrella term to encompass people who identify as transgender and gender nonconforming
Transgender	Umbrella term that describes people whose gender identity or expression does not match the sex they were assigned at birth
Cisgender	Term used to describe people whose gender identity matches the sex that they were assigned at birth
Cisnormativity	Assumption that all, or almost all, individuals are cisgender
Gender nonconforming	Term used to describe some people whose gender expression is different from conventional expectations of masculinity and femininity. Not all gender nonconforming people identify as transgender; nor are all transgender people gender nonconforming
AFAB	Acronym meaning “assigned female at birth”
Sexual debut	Term used to represent one's first experience with intercourse

LGB, lesbian; gay, bisexual.

acceptance of their sexual or gender identity. In addition, gender minority adolescents are faced with medical decisions that can affect future reproductive capacity at a time when they might be uncertain of parenthood desires.[6] Sexual minority adolescents are known to experience significant health disparity compared with their cisgender (nontransgender) and/or heterosexual counterparts. Scientific literature consistently reports that lesbian and bisexual women are exposed to disparities in reproductive and sexual health.[7–9] Adolescent boys who identify as a sexual minority are also known to face higher rates of sexual health risks,[7,10–13] but the literature on this is scarce, specifically with regard to pregnancy involvement. This is not surprising because it is much easier for male individuals to decline or ignore pregnancy involvement; it is also possible that they might never learn of a pregnancy they were partly responsible for conceiving. Understanding the reproductive considerations of gender minority youth is more complex and little has been done to specifically evaluate this patient population, beyond fertility preservation.[14–16] Although this review will touch upon the reproductive health of individuals assigned male at birth, the discussion put forward will focus more on the reproductive health of those assigned female at birth (AFAB) who are a sexual and/or gender minority, with a focus on pregnancy, pregnancy risk factors, and fertility preservation.

Objective

In this review we aim to provide readers with a fundamental understanding of important reproductive health concerns experienced by LGB, transgender, or gender nonconforming adolescents in the areas of pregnancy, pregnancy prevention, family-building, and fertility preservation. In this article we present an objective review of the literature, followed by a discussion of the implications of the findings and how health care providers can optimize the care of patients who identify as a sexual and/or gender minority.

Pregnancy

Numerous school- or community-based studies have shown higher teen pregnancy involvement in youth identifying as a sexual minority compared with their heterosexual counterparts. Saewyc et al performed a secondary analysis of data collected in the Canadian province-wide British Columbia Adolescent Health Survey.[12] Three cohorts (1992, 1998, and 2003) yielded more than 70,000 grade 7-12 students. Among sexually active female students, lesbian and bisexual youth had a higher age-adjusted odds ratio (1.8-3.4) of having been pregnant compared with heterosexual teens. Among the male students who ever had sexual intercourse, gay and bisexual adolescents had higher age-adjusted odds (3.53-7.49) of having participated in a pregnancy than heterosexual male teens.[12]

The 2007 Toronto Teen Survey, which surveyed more than 1200 youth at 90 youth-serving agencies, showed similar increased risks. Greater than 1 in 4 (28%) youth identifying as a sexual minority had been pregnant or were involved in conceiving a pregnancy, whereas heterosexual respondents reported 7% involvement.[17,18]

A nationwide New Zealand questionnaire administered to 8002 youth in 2007 also showed a significant difference in teen pregnancy involvement for sexual minority youth compared with heterosexual youth: 22% of youth who were attracted to the same sex or both sexes had reported a pregnancy compared with 9% of adolescents who were exclusively attracted to the opposite sex.[19]

A large New York City (NYC)-based study of 4892 female and 4811 male students over 3 cohorts (2005, 2007, 2009) reported higher odds of pregnancy involvement in students who identified as LGB or had male and female sexual partners as opposed to those who reported a heterosexual identity or only opposite-gender partner.[20] Specifically, 22.6% of female students who identified as a sexual minority and 20.1% of female students whose sexual partners were male and female reported ever having been pregnant compared with 13.3% of heterosexual female students and 13.7% of female students who reported having had only male sexual partners. Among male students, 28.6% of those who identified as a sexual minority and 37.7% of those who reported male and female sexual partners disclosed conceiving a pregnancy compared

with 10% of heterosexual male students and 9.9% of male students with only female sexual partners.[20]

Less is known about pregnancy involvement among gender minority adolescents. In a recent Canadian convenience sample of 655 transgender youth, 5% reported pregnancy involvement. Among 14- to 18-year-old youth, the frequency (2%) was comparable with a population-based estimate (1%) from the British Columbia Adolescent Health Survey.[21]

Pregnancy Risk Factors

The first published data on sexual and reproductive health risks in the context of sexual orientation was from a statewide youth survey in Minnesota, United States, completed in the mid-1980s.[11] In this study of 4159 grade 9-12 students, LGB participants engaged disproportionately in multiple risk behaviors, reporting an increased mean number of risk behaviors (mean = 6.81 ± 4.49) compared with the overall student population (mean = 3.45 ± 3.15). These behaviors included the earlier debut of sexual activity as well as a greater number of sexual partners in total and in the 3-month period preceding the study. Subsequently, multiple large-scale studies were done to add to the wealth of information on this topic. Common and recurring findings in these studies included disparities in the age of sexual debut, sexual abuse, and the number of sexual partners in youth who identified as a sexual minority compared with their heterosexual counterparts.[12,22]

The US-based Youth Risk Behavior Surveillance System, conducted by the Centers for Disease Control and Prevention, has been a valuable source of information on the topic.[23] The national Youth Risk Behavior Survey (YRBS) monitors 6 categories of priority health-related behaviors among youth and young adults. One large study of 4 cohorts (1995, 1997, 1999, 2001) of the Massachusetts YRBS reported that adolescent girls who identify as lesbian or bisexual were at the highest risk for early sexual debut (before age 13), multiple lifetime or recent sexual partners, pregnancy, diagnosis of sexually transmitted infections, and being coerced into sexual contact.[7] Lesbian and bisexual-identifying adolescents had a rate of condom use similar to heterosexual-identifying women, but those who were "not sure" of their sexual identity reported lower rates of condom use compared with all other groups.[7] Similarly, an analysis of 3 cohorts of data (2005, 2007, 2009) from the NYC YRBS respondents also described an increased likelihood of risky sexual behaviors in sexual minority youth.[20] Compared with non-sexual minority female youth, those who either identified as a sexual minority or had partners of both genders were more likely to disclose having been physically forced to have sexual intercourse and being younger at first sexual intercourse. The same was true in a comparison of sexual minority male or male youth who have male and female sexual partners with non-sexual minority male students; in addition to these aforementioned behaviors, they also reported more lifetime sexual partners.[20] To demonstrate persistence of these concerns, the 2013 Youth Risk Behavior Surveillance System data showed that nearly one-quarter of surveyed cisgender female youth in NYC public high schools with female sexual partners were more vulnerable to increased sexual and health risk-taking behaviors.[24] Across the United States, the prevalence of sexual behaviors related to unintended pregnancy was shown to be generally higher among LGB students than among heterosexual students. In a comparison of students without sexual orientation labels, those who had sexual contact with only the same sex or with both sexes compared with students who had sexual contact with only the opposite sex also had generally higher prevalence rates of risky behavior.[23]

Another source of information is the US National Survey of Family Growth, from which Tornello et al analyzed data from 2664 female respondents aged 15-20 years between 2006 and 2010.[22] This study highlighted that bisexual and lesbian young women reported having more male and female sexual partners than heterosexual participants. Furthermore, they were more likely to report having been forced to have sex by a male partner. Bisexual participants reported the earliest sexual debut, highest numbers of male partners, the greatest use of emergency contraception, and highest frequency of pregnancy termination compared with heterosexual and lesbian women. Heterosexual and sexual minority youth showed similar rates of use of other forms of contraception (regular birth control pills, condoms).[22]

These concepts were further supported in a study of LGB young women aged 16-24 years in Chicago, United States in 2004-2005. One hundred thirty-seven self-identified lesbian and bisexual women completed a 90-minute survey including questions on sexual risk behaviors. In this study, 20% reported having been pregnant and 42% reported having 3 or more partners in the year preceding survey completion. Of those who had reported vaginal intercourse, one-half did so without barrier protection. A large percentage (88%) reported having intercourse while intoxicated and 30% of women described a history of forced sex.[25]

Last, data from the US-based longitudinal Growing Up Today Study were analyzed for 7120 AFAB respondents from 1996 to 2010, who reported their sexual orientation and information on teen pregnancy risk factors. The study reported that childhood maltreatment and bullying, which might, in part, result from sexual orientation-related discrimination, were partially responsible for increased teen pregnancy risk among sexual minorities compared with the heterosexual cohort.[26] In addition, among all sexual minorities, those who first identified as a sexual minority (ie, younger in age) experienced an increased risk for teen pregnancy.

Fertility Preservation and Family Planning

Still a relatively novel concept, fertility preservation in gender minority youth and adolescents is relevant to practicing obstetrician-gynecologists, fertility specialists, and primary care providers.[27] Consideration of the use of generally reversible gender-affirming hormones[28] and irreversible surgical procedures (orchidectomy or a hysterectomy and oophorectomy) on reproductive capabilities is complex but must become a routine component of care. In fact, the World Professional Association for Transgender Health included a new chapter on fertility in their most recent Standards of Care.[29] A survey of adult transgender men (AFAB) showed

that more than one-third of participants would have considered freezing their germ cells if the technology was available at the time of transition.[30] Chen et al showed that 13 (7 transgender male and 6 transgender female adolescents) of 105 adolescents seen in a pediatric gender clinic between 2013 and 2016 underwent formal consultation for fertility preservation, with 4 who completed sperm cryopreservation and 1 who completing oocyte cryopreservation.[31] Nahata et al similarly showed a low rate of fertility preservation utilization; although 72 of 73 transgender adolescents at a US-based large pediatric academic center were counseled about infertility risk due to hormone treatment, only 2 attempted fertility preservation.[14]

An online survey of 156 gender minority American adolescents (83.3% AFAB) showed that 70.5% were interested in adoption and 35.9% in biological parenthood, with gender nonconforming respondents more interested in biological parenthood than transgender respondents.[16] When asked about discussions on fertility with their health care providers, only one-fifth of respondents recalled discussions on fertility in general and even less (13.5%) discussed the effect of hormones on fertility.

Another survey on the topic, entitled Transgender Youth Fertility Attitudes Questionnaire, by Strang et al, has recently been piloted. Because of the nature of pediatric care often requiring the input of parents or guardians, this survey included assessment of transgender youth and their parents. The results showed similar attitudes among youth and their parents on fertility and fertility preservation. Twenty-four percent of youth were interested in biological parenting, but many were unsure or wondered whether their attitude on the topic might change with age.[32] Conversely, another survey of gender minority youth and their cisgender parents identified differing opinions about future childbearing, with some youth feeling pressured by their parents to have their own biological children.[33]

Discussion

Overall, the previously mentioned studies show an increased risk of pregnancy involvement among sexual minority youth compared with heterosexual youth. Limited data indicate that gender minority youth also face pregnancy risks, but not necessarily at an elevated rate compared with cisgender youth. They also highlight increased teen pregnancy risk factors for sexual minorities. The various groups studied were evaluated in a diverse array of settings and over a number of different time periods. This can be considered a weakness as well as a strength of the review. The question of whether these results are generalizable to LGB youth today is reasonable. That said, these studies span almost 3 decades and there was remarkable reproducibility from the earliest to the most recent publications. This suggests that despite advancements in societal beliefs and government protections, sexual minorities still experience disparity in their reproductive and sexual health compared with the general population. Specifically, this review aggregated the literature and showed an estimated increased risk of teen pregnancy involvement between 2 and 10 times higher for sexual minority youth compared with heterosexual youth.

On the basis of the elevated risk of teen pregnancy in sexual minority youth, it is clear that many women who identify as bisexual and lesbian have been or have the potential to become involved with men sexually. Specific to lesbian women of all ages, one study showed that 5.7% of respondents had a male sexual partner in the year preceding survey completion.[34] The likelihood of having a male partner in the preceding year was much higher in those younger than 25 years old. In addition, 77.3% of these women reported one or more male sexual partners in their lifetime. These findings are similar to more recent data from Seattle, United States, and Stockholm, Sweden, which showed that 80% and 82.3% of the women had at least 1 lifetime male sexual partner, respectively.[35,36] As such, health care providers, particularly those who manage adolescents, need to be aware that women who identify as lesbian might require and should receive advice about pregnancy prevention and contraception.

Gender minority adolescents are a distinct population because they might or might not identify as sexual minorities. Nevertheless, gender minority young people often question their sexual orientation, because their identities can challenge the intelligibility of traditional sexual orientation categories, and because sexual attractions sometimes shift with gender transition.[37,38] However, research on their reproductive health and pregnancy-related risk is in its infancy. Considering the diversity of sexuality among gender minority adolescents, it would be beneficial for health care providers to maintain an open attitude and comprehensive approach when discussing their reproductive health needs, as one would with sexual minority youth. Additionally, providers should take care to use inclusive language, drawing on existing recommendations for communication with gender minority patients.[39] One unique reproductive health implication for gender minority individuals is fertility preservation and family planning. Even in this realm, research is minimal, but there is enough to suggest that some gender minority adolescents desire biologically-related children.[16,30] As such, it is crucial that we improve our counseling of patients regarding fertility before initiating gender-affirming medications or performing gender-affirming surgeries (ie, hysterectomy, oophorectomy, orchidectomy).[16] Specifically, there is concern that in those who concurrently use gonadotropin-releasing hormone agonists for pubertal suppression and gender-affirming medications, germ cells might never fully mature.[40] It is also important to understand why there is such a discrepancy between the proportion of gender minority adolescents who indicate interest in parenting and the proportion currently proceeding with fertility preservation. For some patients, the requisite delays or breaks in hormone therapy to achieve gamete maturation and preservation might be unacceptable. However, we must also consider whether there are obstacles that could be easily addressed to make this type of care more accessible.

In the current era of striving for cultural competency, health care providers are hopefully actively attempting to avoid heterosexist and cisnormative[41] assumptions and having open and nonjudgemental conversations with

patients. Although this might be true to an extent, there are still significant barriers to accessing safe and inclusive care for patients in this population. In a large Australian study of primary care providers, more than 50% of participants explicitly reported discomfort in caring for sexual minority patients, which translated to constraints in taking a sexual history and counseling on behaviors.[42] Furthermore, in 2015, Sabin et al published a large study on attitudes of health care providers in the United States, in which implicit preference for heterosexual patients was pervasive.[43] Whether implicit or explicit, bias among health care providers exists and affects patient care and experience.

Although the bias that exists among health care providers generally takes the form of heterosexism (the assumption that everyone is heterosexual and/or has only opposite gender sexual partners) and cisnormativity (the assumption that everyone is cisgender), it is also possible that a health care provider might fail to question a patient who identifies as lesbian about male sexual partners. This might be secondary to unawareness that individuals who identify as a sexual minority might still have different-gender sexual partners, or alternatively fear of being considered heterosexist. The other important consideration for health care providers is that there might be a difference between a patient's romantic or sexual orientation or identity (eg, heterosexual versus LGB) and their sexual practices. Goodenow et al showed that 82% of female participants who had only female sexual partners still self-identified as heterosexual.[7] In general, we recommend that a health care provider approach all patients with a nonjudgemental attitude about sexual and gender identity, avoid assumptions, and focus more on patients' partners and behaviors. Understanding how one identifies is essential to their health as a whole, but it does not necessarily dictate their health risks. One key strategy to achieve this approach is to explain to all patients, before asking questions about sexual partners and practices, that consistently same broad and nonassuming questions are asked.

Conclusion

Sexual minority adolescents have increased sexual and reproductive health risks compared with heterosexual adolescents. Transgender and gender nonconforming adolescents are also likely exposed to elevated risks regardless of their sexual identity. Overall, this population faces sociocultural stigma as well as provider-based barriers to safe and inclusive health care. Thus, it is the responsibility of health care providers to be informed about the increased risks and specific needs of these patients and to provide appropriate risk-reducing management, while using inclusive and sensitive history-taking and language. Despite the issues this population experiences, it must be noted that many individuals do maintain satisfying and healthy sexual lives, driven by their hope and resiliency to overcome obstacles. It is optimistic that there is ongoing research on this constantly evolving topic, working to contribute to the body of knowledge informing competent care. Ultimately, this will allow accomplishing the WHO goal of everyone having a safe and satisfying sexual life and to reproduce without limitation if desired.[1]

Box 1. Summary Statements

- There is an increased likelihood of being involved in teen pregnancy and exposure to pregnancy risk factors among sexual minority youth compared with heterosexual youth.
- Transgender and gender nonconforming youth might experience a similar increased likelihood of being involved in teen pregnancy and exposure to pregnancy risk factors compared with cisgender youth.
- Transgender and gender nonconforming youth should be offered counseling on fertility preservation.
- Health care providers are responsible for understanding these risks and special needs and making a conscious effort to optimize the health of this vulnerable population.

References

1. World Health Organization: UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP). Highlights of 2013. Geneva, Switzerland, World Health Organization, 2014
2. Cochat Costa Rodrigues MC, Leite F, Queirós M: Sexual minorities: the terminology. Eur Psychiatry 2017; 41:S848
3. Bauer GR, Redman N, Bradley K, et al: Sexual health of trans men who are gay, bisexual, or who have sex with men: results from Ontario, Canada. Int J Transgenderism 2013; 14:66
4. Arayasirikul S, Pomart WA, Raymond HF, et al: Unevenness in health at the intersection of gender and sexuality: sexual minority disparities in alcohol and drug use among transwomen in the San Francisco Bay area. J Homosex 2018; 65:66
5. Hembree WC, Cohen-Kettenis PT, Gooren L, et al: Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab 2017; 102:3869
6. Nahata L, Curci MB, Quinn GP: Exploring fertility preservation intentions among transgender youth. J Adolesc Health 2018; 62:123
7. Goodenow C, Szalacha LA, Robin LE, et al: Dimensions of sexual orientation and HIV-related risk among adolescent females: evidence from a statewide survey. Am J Public Health 2008; 98:1051
8. Charlton BM, Corliss HL, Missmer SA, et al: Sexual orientation differences in teen pregnancy and hormonal contraceptive use: an examination across 2 generations. Am J Obstet Gynecol 2013; 209:204–204.e1
9. Mustanski B, Van Wagenen A, Birkett M, et al: Identifying sexual orientation health disparities in adolescents: analysis of pooled data from the Youth Risk Behavior Survey, 2005 and 2007. Am J Public Health 2014; 104:211
10. Blake SM, Ledsky R, Lehman T, et al: Preventing sexual risk behaviors among gay, lesbian, and bisexual adolescents: the benefits of gay-sensitive HIV instruction in schools. Am J Public Health 2001; 91:940
11. Garofalo R, Wolf RC, Kessel S, et al: The association between health risk behaviors and sexual orientation among a school-based sample of adolescents. Pediatrics 1998; 101:895
12. Saewyc EM, Poon CS, Homma Y, et al: Stigma management? The links between enacted stigma and teen pregnancy trends among gay, lesbian, and bisexual students in British Columbia. Can J Hum Sex 2008; 17:123
13. Rosario M, Schrimshaw EW, Hunter J: A model of sexual risk behaviors among young gay and bisexual men: longitudinal associations of mental health, substance abuse, sexual abuse, and the coming-out process. AIDS Educ Prev 2006; 18:444
14. Nahata L, Tishelman AC, Caltabellotta NM, et al: Low fertility preservation utilization among transgender youth. J Adolesc Health 2017; 61:40
15. Knudson G, De Sutter P: Fertility options in transgender and gender diverse adolescents. Acta Obstet Gynecol Scand 2017; 96:1269
16. Chen D, Matson M, Macapagal K, et al: Attitudes toward fertility and reproductive health among transgender and gender-nonconforming adolescents. J Adolesc Health 2018; 63:62
17. Flicker S, Flynn S, Larkin J, et al: Sexpress: the Toronto Teen Survey report. Toronto, Planned Parenthood Toronto, 2009
18. Flicker S, Guta A, Larkin J, et al: Survey design from the ground up: collaboratively creating the Toronto Teen Survey. Health Promot Pract 2010; 11:112
19. Rossen FV, Lucassen MF, Denny S, et al: Youth '07. The health and wellbeing of secondary school students in New Zealand: results for young people attracted to the same sex or both sexes. Auckland, The University of Auckland, 2009
20. Lindley LL, Walsemann KM: Sexual orientation and risk of pregnancy among New York City high-school students. Am J Public Health 2015; 105:1379
21. Veale J, Watson RJ, Adjei J, et al: Prevalence of pregnancy involvement among Canadian transgender youth and its relation to mental health, sexual health, and gender identity. Int J Transgenderism 2016; 17:107

22. Tornello SL, Riskind RG, Patterson CJ: Sexual orientation and sexual and reproductive health among adolescent young women in the United States. J Adolesc Health 2014; 54:160
23. Kann L, Olsen EO, McManus T, et al: Sexual identity, sex of sexual contacts, and health-related behaviors among students in grades 9–12—United States and selected sites, 2015. MMWR Surveill Summ 2016; 65:1
24. Coble CA, Silver EJ, Chhabra R: Description of sexual orientation and sexual behaviors among high school girls in New York City. J Pediatr Adolesc Gynecol 2017; 30:460
25. Herrick A, Matthews A, Garofalo R: Health risk behaviors in an urban sample of young women who have sex with women. J Lesbian Stud 2010; 14:80
26. Charlton BM, Roberts AL, Rosario M, et al: Teen pregnancy risk factors among young women of diverse sexual orientations. Pediatrics 2018; 141:e20172278
27. Ethics Committee of the American Society for Reproductive Medicine: Access to fertility services by transgender persons: an Ethics Committee opinion. Fertil Steril 2015; 104:1111
28. Light AD, Obedin-Maliver J, Sevelius JM, et al: Transgender men who experienced pregnancy after female-to-male gender transitioning. Obstet Gynecol 2014; 124:1120
29. Coleman E, Bockting W, Botzer M, et al: Standards of care for the health of transsexual, transgender, and gender-nonconforming people, Version 7. Int J Transgenderism 2012; 13:165
30. Wierckx K, Van Caenegem E, Pennings G, et al: Reproductive wish in transsexual men. Hum Reprod 2012; 27:483
31. Chen D, Simons L, Johnson EK, et al: Fertility preservation for transgender adolescents. J Adolesc Health 2017; 61:120
32. Strang JF, Jarin J, Call D, et al: Transgender Youth Fertility Attitudes Questionnaire: measure development in nonautistic and autistic transgender youth and their parents. J Adolesc Health 2018; 62:128
33. Clark B, Jarin J, Strang J, et al: Transgender adolescent attitudes towards their future fertility. J Pediatr Adolesc Gynecol 2017; 30:326
34. Diamant AL, Lever J, Schuster MA: Lesbians' sexual activities and efforts to reduce risks for sexually transmitted diseases. J Gay Lesbian Med Assoc 2000; 4:41
35. Marrazzo JM, Stine K: Reproductive health history of lesbians: implications for care. Am J Obstet Gynecol 2004; 190:1298
36. Moegelin L, Nilsson B, Helström L: Reproductive health in lesbian and bisexual women in Sweden. Acta Obstet Gynecol Scand 2010; 89:205
37. Gagné P, Tewksbury R: Rethinking binary conceptions and social constructions: transgender experiences of gender and sexuality. In: Texler Segal M, Demos V, editors. Advances in Gender Research, (3rd ed.). Stanford, Connecticut, JAI Press, 1998, pp 73–102
38. Davis SA, Colton Meier S: Effects of testosterone treatment and chest reconstruction surgery on mental health and sexuality in female-to-male transgender people. Int J Sex Health 2014; 26:113
39. Hagen DB, Galupo MP: Trans* individuals' experiences of gendered language with health care providers: recommendations for practitioners. Int J Transgenderism 2014; 15:16
40. Johnson EK, Finlayson C: Preservation of fertility potential for gender and sex diverse individuals. Trans Health 2016; 1:41
41. Bauer GR, Hammond R, Travers R, et al: "I don't think this is theoretical; this is our lives": how erasure impacts health care for transgender people. J Assoc Nurses AIDS Care 2009; 20:348
42. Khan A, Plummer D, Hussain R, et al: Does physician bias affect the quality of care they deliver? Evidence in the care of sexually transmitted infections. Sex Transm Infect 2008; 84:150
43. Sabin JA, Riskind RG, Nosek BA: Health care providers' implicit and explicit attitudes toward lesbian women and gay men. Am J Public Health 2015; 105:1831