

Pregnancy prevention and unintended pregnancy across gender identity: a cross-sectional study of college students

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ABSTRACT

Using data from the Fall 2015 through Spring 2018 National College Health Assessment, we examined receipt of pregnancy prevention information and unintended pregnancy by gender identity among participants aged 18–25 years who were assigned female at birth ($n = 185\,658$). Non-binary students were more likely than cisgender students to report wanting (adjusted risk ratio [ARR]: 1.12; 95% CI: 1.08–1.16), receiving (ARR: 1.09; 95% CI: 1.04–1.13), and having an unmet need for (ARR: 1.10; 95% CI: 1.02–1.19) pregnancy prevention information from their school. Transmasculine students did not significantly differ from cisgender students for these outcomes. Non-binary and transmasculine students were as likely as cisgender students to have a past-year unintended pregnancy. Non-binary and transmasculine young people are at risk for unintended pregnancy and need access to comprehensive sexual education, reproductive health counseling, and care.

Keywords: female-to-male, health disparity, non-binary, pregnancy prevention, reproductive health, transgender, transmasculine, unintended pregnancy.

Transgender and non-binary (TNB) people face unique barriers to reproductive health care, including often-lacking health insurance or being denied coverage for reproductive health services (e.g. Pap tests).^{1,2} TNB people may also avoid care, or disclosing their assigned sex at birth to their provider, due to discrimination.^{3–5} Additionally, some providers may not understand that some of their TNB patients are at risk of unintended pregnancy and may need or want pregnancy prevention counseling.² This may partially be due to the misconception that gender-affirming testosterone use functions as contraception.^{3,6–9}

Few studies have addressed unintended pregnancy risk by gender identity.^{6,10–12} Research from the Pride Study found that 1% of TNB participants who were assigned female at birth or intersex had a past-year pregnancy, and half of reported lifetime pregnancies were unintended.¹⁰ The Canadian Trans Youth Health Survey found that 2% of participants aged 14–25 years had ever been pregnant or caused a pregnancy.¹¹ Another survey of TNB people assigned female at birth found 6% had ever had an unplanned pregnancy.⁶ However, these studies used convenience samples and lacked cisgender participants, thus preventing comparison across gender identity. We expand on previous research by documenting young people's receipt of, desire for, and unmet need for pregnancy prevention information from their school, as well as risk of unintended pregnancy by gender identity, using data from 18- to 25-year-old assigned-female students in the Fall 2015 through Spring 2018 National College Health Assessment.¹³ Multivariable log-binomial regression was used to estimate adjusted risk ratios (ARRs) and 95% confidence intervals (95% CIs) for pregnancy prevention information and unintended pregnancy across gender identity (Table 1).

Nearly half of students reported wanting (47.7%) or receiving (47.2%) pregnancy prevention information from their school, whereas more than one-fifth had an unmet need for such information (21.6%). After adjusting for covariates (e.g. age, race/ethnicity, geographic region), non-binary students (e.g. those who identified as genderqueer, agender, genderfluid, etc.) were more likely than their cisgender counterparts to report wanting (ARR:

Table 1. Pregnancy prevention information and unintended pregnancy by gender identity among US college cisgender, non-binary, and transmasculine students who were assigned female at birth ($n = 185\,658$).

Risk ratios adjusted for age, race/ethnicity, geographic region						
n (%) unless otherwise specified	Total	Cisgender	Non-binary		Transmasculine	
	($n = 185\,658$)	($n = 182\,622, 98.4\%$)	($n = 2236, 1.2\%$)	ARR (95% CI)	($n = 800, 0.4\%$)	ARR (95% CI)
Pregnancy prevention information						
Wanted	87 426 (47.7)	85 863 (47.6)	1200 (54.3)	1.12 (1.08–1.16)	363 (46.3)	0.95 (0.88–1.03)
Received	87 041 (47.2)	85 523 (47.2)	1144 (51.5)	1.09 (1.04–1.13)	374 (47.2)	0.99 (0.92–1.07)
Unmet need	39 296 (21.6)	38 624 (21.5)	524 (23.8)	1.10 (1.02–1.19)	148 (19.0)	0.88 (0.76–1.01)
Occurrence of pregnancy						
Unintended	1413 (0.8)	1395 (0.8)	14 (0.6)	0.85 (0.51–1.44)	4 (0.5)	0.67 (0.25–1.77)
Unintended among at risk	1413 (1.2)	1395 (1.2)	14 (1.1)	0.96 (0.57–1.63)	4 (0.9)	0.77 (0.29–2.05)
Any	1843 (1.0)	1819 (1.0)	17 (0.8)	0.80 (0.50–1.28)	7 (0.9)	0.90 (0.43–1.88)

ARR, adjusted risk ratios; 95% CI, 95% confidence interval; Unmet need, wanting but not receiving pregnancy prevention information; Unintended pregnancy among at risk, unintended pregnancy among those who had past-year vaginal intercourse and did not have an intentional pregnancy; Any pregnancy, unintended and intended pregnancies combined.

1.12; 95% CI: 1.08–1.16), receiving (ARR: 1.09; 95% CI: 1.04–1.13), and having an unmet need (ARR: 1.10; 95% CI: 1.02–1.19) for pregnancy prevention information (Table 1). Transmasculine students (e.g. those who identified as men, male, masculine, etc.) were as likely as cisgender students to want, receive, and have an unmet need for pregnancy prevention information.

Past-year unintended pregnancy was rare (0.8%). We did not find any significant differences in unintended pregnancy risk by gender identity; however, the point estimates for the risk ratios suggest unintended pregnancy was less common among transmasculine students than cisgender students. Results were consistent for unintended pregnancy among those at risk of unintended pregnancy and for any (unintended and intended) pregnancy. These findings are consistent with results from the Canadian Trans Youth Health Survey, which found the proportion of sampled TNB students who had ever been pregnant was similar to external estimates for the occurrence of pregnancy among youth in British Columbia.¹¹ The high proportion of students who wanted pregnancy prevention information from their school may indicate inadequate prior sex education, which is concerning, because most students in our sample were sexually active. In light of this critical knowledge gap, college health centres should take a proactive role in ensuring that all students, regardless of gender identity, have access to comprehensive sex education, reproductive health counselling, and care. Recent papers have outlined guidance on the provision of reproductive health care and pregnancy-prevention counselling for TNB patients.^{4,9,14–17}

We hope these findings help dispel the notion that TNB people are not at risk of unintended pregnancy. TNB students are as likely as their cisgender peers to experience an unintended pregnancy. These young adults need to receive

comprehensive counselling and care to ensure they meet their reproductive goals.

References

- James SE, Herman JL, Rankin S, Keisling S, Mottet M, Anafi M. The Report of the 2015 U.S. Transgender Survey. Washington, DC: National Center for Transgender Equality; 2016. Available at <https://transequality.org/sites/default/files/docs/usts/USTS-Full-Report-Dec17.pdf> [verified 14 Aug 2018]
- Fix L, Durden M, Obedin-Maliver J, Moseson H, Hastings J, Stoeffler A, et al. Stakeholder perceptions and experiences regarding access to contraception and abortion for transgender, non-binary, and gender-expansive individuals assigned female at birth in the U.S. *Arch Sex Behav* 2020; 49(7): 2683–702. doi:10.1007/s10508-020-01707-w
- Agénor M, Cottrill AA, Kay E, Janiak E, Gordon AR, Potter J. Contraceptive beliefs, decision making and care experiences among transmasculine young adults: a qualitative analysis. *Perspect Sex Reprod Health* 2020; 52(1): 7–14. doi:10.1363/psrh.12128
- Bonnington A, Dianat S, Kerns J, Hastings J, Hawkins M, De Haan G, et al. Society of family planning clinical recommendations: contraceptive counseling for transgender and gender diverse people who were female sex assigned at birth. *Contraception* 2020; 102(2), 70–82. doi:10.1016/j.contraception.2020.04.001
- Alencar Albuquerque G, de Lima Garcia C, da Silva Quirino G, Alves MJH, Belém JM, dos Santos Figueiredo FW, et al. Access to health services by lesbian, gay, bisexual, and transgender persons: systematic literature review. *BMC Int Health Hum Rights* 2016; 16(1): 2. doi:10.1186/s12914-015-0072-9
- Abern L, Nippita S, Maguire K. Contraceptive use and abortion views among transgender and gender-nonconforming individuals assigned female at birth. *Contraception* 2018; 98(4): 337. doi:10.1016/j.contraception.2018.07.027
- Gomez A, Walters P, Dao L. ‘Testosterone in a way is birth control’: contraceptive attitudes and experiences among transmasculine and nonbinary young adults. *Contraception* 2016; 94(4): 422–3. doi:10.1016/j.contraception.2016.07.145
- Gomez AM, Đỗ L, Ratliff GA, Crego PI, Hastings J. Contraceptive beliefs, needs, and care experiences among transgender and nonbinary young adults. *J Adolesc Health* 2020; 67(4): 597–602. doi:10.1016/j.jadohealth.2020.03.003
- Krempasky C, Harris M, Abern L, Grimstad F. Contraception across the transmasculine spectrum. *Am J Obstet Gynecol* 2020; 222(2):134–43. doi:10.1016/j.ajog.2019.07.043

- 10 Moseson H, Fix L, Hastings J, Stoeffler A, Lunn MR, Flentje A, *et al*. Pregnancy intentions and outcomes among transgender, nonbinary, and gender-expansive people assigned female or intersex at birth in the United States: results from a national, quantitative survey. *Int J Transgender Health* 2021; 22: 30–41. doi:10.1080/26895269.2020.1841058
- 11 Veale J, Watson RJ, Adjei J, Saewyc E. Prevalence of pregnancy involvement among Canadian transgender youth and its relation to mental health, sexual health, and gender identity. *Int J Transgend* 2016; 17(3–4): 107–13. doi:10.1080/15532739.2016.1216345
- 12 Charlton BM, Reynolds CA, Tabaac AR, Godwin EG, Porsch LM, Agénor M, *et al*. Unintended and teen pregnancy experiences of trans masculine people living in the United States. *Int J Transgender Health* 2021; 22: 65–76. doi:10.1080/26895269.2020.1824692
- 13 American College Health Association. American College Health Association-National College Health Assessment, Fall 2015-Spring 2018. Silver Spring, Maryland: American College Health Association; 2018.
- 14 Francis A, Jasani S, Bachmann G. Contraceptive challenges and the transgender individual. *Womens Midlife Health* 2018; 4(1): 12. doi:10.1186/s40695-018-0042-1
- 15 Boudreau D, Mukerjee R. Contraception care for transmasculine individuals on testosterone therapy. *J Midwifery Womens Health* 2019; 64(4): 395–402. doi:10.1111/jmwh.12962
- 16 Dodson NA, Langer M. The reproductive health care of transgender young people: a guide for primary care providers. *Pediatr Ann* 2019; 48(2): e64–70. doi:10.3928/19382359-20190116-04
- 17 Forsberg H, Eliason MJ. Healthcare providers' pregnancy prevention counseling of trans and non-binary assigned female at birth (TNB/AFAB) patients. *J Homosex* 2020. doi:10.1080/00918369.2020.1819713

Data availability. Data may be obtained from the American College Health Association and are not publicly available.

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