

Increasing awareness of sexually transmitted infections (STI) testing and addressing stigma may improve STI testing in Aboriginal and Torres Strait Islander youth: Evidence from the Next Generation Youth Wellbeing Study

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Abstract

Objective: To quantify the prevalence of sexually transmitted infections (STI) testing in relation to sociodemographic, behavioural, and health related factors, and patterns in sexual health service (SHS) use and non-use among Aboriginal and Torres Strait Islander (hereafter Aboriginal) youth.

Methods: The analyses included N=198 sexually active 16-24-year-olds from Central Australia, Western Australia, and New South Wales participating in the Next Generation Youth Wellbeing Study. Modified Poisson regression estimated age-sex-adjusted prevalence ratios (PRs) for ever testing for STIs.

Results: Approximately 55% of the participants ever tested for STIs. Over 44% of the participants ever accessed SHS; perceived irrelevance (50%) and embarrassment (15%) were the main reasons for not accessing SHS. STI testing was higher among: 21–24-year-olds (68.75% vs 37.04% among 16–17-year-olds, PR: 1.82; confidence interval 1.23–2.67); those with high/very-high psychological distress (63.39% vs 44.55% among low/moderate group, 1.50; 1.16–1.94); and those who lived in ≥ 3 houses in the past five years (65.43% vs 48.11% among those who lived in 1–2 houses, 1.33; 1.04–1.70).

Conclusions: STI testing should be offered to sexually active Aboriginal youth at every opportunity.

Implications for public health: Sexual health messages should further promote the benefit of regular STI testing and where to access free SHS among Aboriginal youth.

Key words: STI testing, Aboriginal, youth, Australia

Introduction

Sexually transmitted infections (STIs) remain a global public health challenge, with higher rates diagnosed among 10–24-year-olds, particularly 20–24-year-olds than older age groups.¹ Most STIs are asymptomatic and the stigma surrounding STI testing prevents some individuals from getting tested and seeking treatment

if needed. If untreated, STIs can lead to adverse health outcomes such as pelvic inflammatory diseases, infertility, and increased susceptibility to human immunodeficiency virus (HIV), hepatitis C and B, and may contribute to increased community transmission.^{2–6}

In Australia, Aboriginal and Torres Strait Islander (hereafter Aboriginal) youth experience disproportionate sexual health morbidities

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compared with non-Aboriginal youth, with several-fold higher notification rates of chlamydia (3.2-fold), gonorrhoea (5.2-fold) and infectious syphilis (5.6-fold).⁷ Colonisation of Australia, the disease burden that came with it, the enduring legacy of colonisation in public policies that led to inequity in social determinants of health, inadequate access to culturally appropriate health services, racism, discrimination, and intergenerational trauma Aboriginal peoples experience are critically important in understanding their sexual health outcomes.⁸

With a median age of 24, Aboriginal peoples are a youthful population.⁹ STI notification among youth makes up a significant portion of STI notifications in Aboriginal peoples. In 2020, 61% of chlamydia and 47% of gonorrhoea notifications in Aboriginal peoples were in the 15–24-year-olds.⁷ Since the 2011 outbreak, syphilis notifications continue to rise among 15–29-year-old Aboriginal youth living in urban, regional, and remote communities across Queensland, Northern Territory, Western Australia, and South Australia, with females being affected the most.^{7,10} The annual surveillance report 2022 indicated STI rates were high among all age groups, and increasing rates of infectious syphilis in youth in regional and remote areas and congenital syphilis were major concerns.⁷

Due to the asymptomatic nature of STIs, routine testing for sexually active youth is critical to improve the sexual health outcomes of Aboriginal youth through timely testing, treatment, and secondary prevention.¹¹ While testing is important, how often a sexually active person seeks testing is even more important. The Australian STI Management Guidelines for Aboriginal peoples under the age of 30 (or 35 in remote areas) recommend sexually active people should test annually.¹¹ A survey (the Goanna Survey 2) conducted with 16–29-year-old Aboriginal youth reported that 70% of the sexually active Aboriginal youth ever tested for STIs; of those, about half tested in the year before.¹² While Aboriginal youth are motivated to have a safe and healthy sexual life, shame, racism, and lack of youth-friendly and culturally appropriate services are some of the major barriers impacting their access to sexual health care.¹³ Aboriginal Community Controlled Health Services (ACCHSs) are the preferred place to access sexual health services (SHS) among Aboriginal youth.¹⁴ However, the services offered through ACCHSs to support community needs may vary, particularly in small ACCHSs and those in remote areas. Sexual health promoting messages often lack relevance to the lived experience of Aboriginal youth and do not empower them to know the benefit of having regular STI tests and sexual health care.¹³

Young people may have less opportunity to make decisions about their health due to the underlying power imbalance in society.¹⁵ Intersectionality of race and gender identity may further constrain their opportunities to seek and access health care. Qualitative studies examined Aboriginal youth's perspectives on sexual health and wellbeing, their resilience against STIs, and engagement with STI prevention strategies.^{16–18} Mooney–Somers et al. (2010) highlighted Aboriginal youth's positive self-concept, confidence, agency, and enriched resilience through their narratives of experiencing STIs and making sense of those experiences.¹⁶ Bell et al. (2020) described individual and collective strategies Aboriginal youth in remote Australia employed to reduce their risk of STI and maintained that such strategies could be adopted in STI prevention and management initiatives developed for Aboriginal youth.¹⁷ Graham et al. (2022) highlighted the value Aboriginal young men place on having healthy romantic relationships, strategies to achieve such relationships, and

culture as a source of strength to wellbeing.¹⁸ However, quantitative peer-reviewed evidence on STI testing and prevention in Aboriginal youth, interpreted from a strength-based approach, is limited. Peer-reviewed quantitative studies published about a decade ago reported evidence on STI testing in Aboriginal youth from only one Australian state,^{14,19} while a more recent study examined STI and HIV testing in Aboriginal and non-Aboriginal youth who had interaction with the justice system.²⁰ To address this gap in the evidence, we quantify the prevalence of ever testing for STIs in the Next Generation Youth Wellbeing Study (NextGen) participants and variations across population subgroups, and patterns in SHS use and non-use to inform future programs and policies towards better sexual health outcomes in Aboriginal youth. Employing a strength-based approach, we highlight the characteristics of Aboriginal youth undergoing STI testing.

Materials and methods

Data

NextGen is a mixed-methods cohort study, conceived and led by an Aboriginal epidemiologist and clinician, with research governance from Aboriginal and non-Aboriginal individuals from Central Australia, Western Australia and New South Wales. Methods employed in conducting NextGen have been reported elsewhere.^{21,22} A total of 1,244 10–24-year-old Aboriginal youth were recruited between March 2018 and March 2020. Young Aboriginal peer recruiters led recruitment and data collection with guidance from experienced Aboriginal researchers. Participants provided informed consent before data collection. Data were collected using REDCap (Research Electronic Data Capture) or paper format, depending on participant preference. Complying with ethics requirements, we asked sexual health questions to the 16–24-year-olds only.

Sample

Of the 1,244 participants, 518 were 16–24 years-old at baseline. Of them, 218 were sexually active (i.e. ever had oral, vaginal, or anal sex) who were asked “*Have you ever been tested for a sexually transmitted infection/disease?*” with response options (a) *Yes, in the past year*, (b) *Yes, more than a year ago*, (c) *Never*, and (d) *Prefer not to answer* (Supplement 1). After excluding transgender participants ($n=5$) and those with missing data on STI testing ($n=20$), a total of 198 participants who provided response to the question were included in the analyses.

Exposures

The exposure variables were constructed from survey responses as outlined in Supplement 2, from the following five domains:

- Sociodemographic:** age; sex; the highest level of schooling; employment status; whether receiving any allowance; postcodes to determine geographical remoteness following the Australian Statistical Geography Standard²³; and the number of houses lived in the past five years (to measure housing stability).
- Sexual health behaviour and health seeking:** sexual identity, number of sexual partners in the past 12 months; methods used at last sex for protection against STIs; and health service access for sexual health.
- Exposure to substances:** exposure to tobacco, electronic cigarette (e-cigarette), marijuana, and alcohol (to gauge the association between exposure to substances and sexual health outcomes).

- d) **Physical and mental health:** psychological distress measured on the 5-item Kessler 5 (K5) scale with cut-offs: low/moderate (5–11) and high/very high (12–25)²⁴; and diagnosis of depression and anxiety by a doctor.
- e) **The experience of racism:** whether participants experienced racism in several social settings, including schools, shopping malls, and restaurants. Participants were given a score if reported to have experienced racism in any of the above settings, and the scores were then combined to create a final score to facilitate analysis.

Statistical analyses

The analyses employed a strength-based approach to analyse qualitative data following Thurber et al. (2020).²⁵ We quantified relationships between exposure variables of interest and a positive outcome i.e. ever testing for STIs, instead of a dominant deficit-based approach that typically examines the relationship between specific risk factors and a negative outcome. The characteristics of the study participants were described using summary statistics. Modified Poisson regression estimated crude and age- and sex-adjusted prevalence ratios (PR) and a 95% confidence interval (CI) for STI testing according to exposure variables of interest.²⁶ Ordinal values representing the median of each age group were used to test for trend in STI testing according to age.²⁷ Missing data in exposure variables were included as a category (Supplement 4). Analyses were performed using Stata version 17.0 (StataCorp, College Station, TX, USA). STROBE checklist for cross-sectional studies was followed for reporting evidence.²⁸

Results

The participants were predominantly female (60.60%), aged between 18–20 years (40%) and recruited from Western Australia (Table 1). Approximately 42% accessed SHS; majority of them did so at Aboriginal Medical Services. (Table 2).

Overall, 55.56% of participants included in the analyses ever tested for STIs, ranging from 37% to 73.6% across various exposures of interest (Table 1). Of these, 81% were tested in the past year (Supplement 3). A positive trend for ever testing for STIs was observed with increasing age (PR: 1.12; CI: 1.04–1.17) (Figure 1). Being 21–24-year-old was associated with ever testing for STIs, compared with 16–17-year-old (1.82; 1.23–2.67). Having a high/very high level of psychological distress (1.50; 1.16–1.94) and having to move ≥ 3 houses in the last five years (1.33; 1.06–1.73) were associated with ever testing for STIs. While the differences were not statistically significant as indicated by wide CIs, the patterns showed that a higher proportions of females, heterosexuals, major city dwellers, those who did not completed Year 10, did not receive government allowance, not in a relationship, had ≥ 2 partner in the past year, ever smoked tobacco, e-cigarette and marijuana, ever had alcohol, and ever diagnosed with depression and/or anxiety reported ever being tested for STIs than those without these characteristics.

Discussion

This study quantified for the first time, the prevalence of STI testing in Aboriginal youth, overall and variations across a range of population characteristics including sociodemographic factors, sexual health behaviour, health-seeking behaviour, exposure to substances, mental health, and experience of racism. In our sample, slightly over half of

Table 1: Participant characteristics (n=198).

Characteristics	Tested for STIs %(n)		Total
	Ever %(n)	Never %(n)	
Overall	55.56 (110)	44.44 (88)	198
Age (in years), median (interquartile range)*	20 (18–22)	18 (17–20)	
Age groups			
16–17	37.04 (20)	62.96 (34)	54
18–20	57.50 (46)	42.50 (34)	80
21–24	68.75 (44)	31.25 (20)	64
Sex			
Male	47.44 (37)	52.56 (41)	78
Female	60.83 (73)	39.17 (47)	120
Site			
CA	53.85 (14)	46.15 (12)	26
WA	61.54 (64)	38.46 (40)	104
NSW	47.06 (32)	52.94 (36)	68
Remoteness			
Regional/ remote/ very remote	47.62 (30)	52.38 (20)	64
Major cities	68.75 (44)	31.25 (33)	63
Missing	50.70 (36)	49.30 (35)	71
Highest level of schooling			
<Year 10	73.68 (14)	26.32 (5)	19
Year 10	57.58 (38)	42.42(28)	66
Year 12	58.57 (41)	41.43 (29)	70
Missing	39.53 (17)	60.47 (26)	43
Currently employed^b			
No	55.81 (72)	44.19 (57)	129
Yes	56.45 (35)	43.55 (27)	62
Missing	–*	–*	7
Allowance			
No	57.75 (41)	42.25 (30)	71
Yes	54.72 (58)	45.28 (48)	106
Missing	52.38 (11)	47.62 (10)	21
Houses lived in the last 5 years			
1–2	48.11 (51)	51.89 (55)	106
≥ 3	65.43 (53)	34.57 (28)	81
Missing	54.55 (6)	45.45 (5)	11
Sexual identity^b			
Heterosexual	53.45 (93)	46.55 (81)	174
LGBTQIA+	70.59 (70)	29.41 (5)	17
Missing	–*	–*	7
Relationship status^b			
Single	58.33 (56)	41.67 (40)	96
In a relationship/ married	51.58 (49)	48.42 (46)	95
Missing	–*	–*	7
Number of sexual partner (last 12 months)			
0	50.00 (5)	50.00 (5)	10
1	51.38 (56)	48.62 (53)	109
≥ 2	65.08 (41)	34.92 (22)	63
Missing	50.00 (8)	50.00 (8)	16
Used condom exclusively at last sex^a			
None	60.71 (34)	39.29 (22)	56
Condom	51.55 (50)	48.45 (47)	97
Combination of methods	35.71 (5)	64.29 (9)	14
Missing	67.74 (21)	32.26 (10)	31
Smoked tobacco^b			
Never	49.18 (30)	50.82 (31)	61
Ever	58.91 (76)	41.09 (53)	129

(continued)

Table 1. Continued			
Characteristics	Tested for STIs %(n)		Total
	Ever %(n)	Never %(n)	
Missing	.*	.*	8
Smoked e-cigarette			
Never	53.21 (58)	46.79 (51)	109
Ever	59.68 (37)	40.32 (25)	62
Missing	55.56 (15)	44.44 (15)	27
Alcohol^b			
Never	44.00 (11)	56.00 (14)	25
Ever	57.32 (94)	42.68 (70)	164
Missing	.*	.*	9
Marijuana^b			
Never	52.81 (47)	47.19 (42)	89
Ever	60.20 (59)	39.80 (39)	98
Missing	.*	.*	11
Exposure to multiple substances ever			
None or one	52.54 (31)	47.46 (31)	59
Two or more	57.94 (73)	42.06 (53)	126
Missing	46.15 (6)	53.85 (7)	13
Self-rated health^b			
Good/ excellent	55.86 (81)	44.14 (64)	145
Poor/ fair	57.14 (28)	42.86 (21)	49
Missing	.*	.*	.*
Experience of racism^b			
Never	57.89 (33)	42.11 (24)	57
Ever	54.41 (74)	45.59 (62)	136
Missing	.*	.*	5
Psychological distress^b			
Low/ moderate	44.55 (45)	55.45 (56)	101
High/ very high	32.61 (62)	32.61 (30)	92
Missing	.*	.*	5
Depression^b			
Never	51.82 (71)	48.18 (66)	137
Ever	64.91 (37)	35.09 (20)	57
Missing	.*	.*	.*
Anxiety^b			
Never	50.74 (69)	49.26 (67)	136
Ever	66.07 (37)	33.93 (19)	56
Missing	.*	.*	.*

CA = Central Australia; NSW = New South Wales; STIs = sexually transmitted infections; WA = Western Australia.

*p value <0.001.

**Proportions included missing values ranging between 2%-36% across different exposure variables. There is no missing value for age, sex, and study sites.

^aMultiple responses were allowed: i) None ii) Condom iii) Withdrawal iv) Oral sex v) Other.

^bSmaller frequencies (n=<5) have not been mentioned in the table to avoid identification.

the sexually active 16–24-year-old Aboriginal youth in Central Australia, Western Australia, and New South Wales had ever undergone STI testing, indicating a considerable testing gap. A significant proportion of participants never sought SHS, with perceived lack of necessity and embarrassment being the most common causes for not doing so (Table 2). Therefore, a potential reason for not testing for STIs may be perceived irrelevance and stigma associated with seeking sexual health care as indicated in Table 2. These results highlight a need for sexual health education emphasising STIs' asymptomatic nature, the adverse consequences of untreated STIs, and the importance of regular testing as crucial to

sexual and general health and wellbeing. Sexual health information needs to inform Aboriginal youth about the importance of having regular STI tests.²⁹ Mooney–Somers et al. (2010) noted Aboriginal youth's desire to use their knowledge and skills gained through lived experiences to share with their peers.¹⁶ The potential for engaging peers educators, who are willing to share their knowledge and experience regarding STI testing, may be considered to combat stigma and highlight the importance of regular STI testing.

Ever testing for STIs among sexually active Aboriginal youth was lower in our study (55%) than in the Goanna Survey 2 (70%), which covered 16–29-year-old Aboriginal youth across Australia.¹² However, the proportion of participants with the most recent test undertaken in the past year was considerably higher in our sample (81%) than the above study (52%). The finding of higher level of STI testing at older age (21–24-year-olds) is in line with other studies conducted with Aboriginal youth.^{12,30} The small sample size, especially in population subgroups, mean that the study may not be powered to detect statistically significant differences. However, this is the largest study conducted with this age group to date, and point estimates indicate potential variations in the population (Figure 1).

Mirroring other studies, in our sample, ever testing for STIs was more common among females than males.³⁰ Ever testing for STIs was found to be higher among sexually active Aboriginal youth in remote and urban areas than in regional areas.³⁰ In our study, ever testing for STIs appeared to be lower in regional/remote/very remote areas than in major cities. This could be due to a lack of culturally responsive and youth-friendly testing facilities.^{14,17,29} However, these results should be interpreted with caution due to a high proportion of missing information regarding remoteness and a low number of participants from regional/remote/very remote areas. Although the variations in STI testing across states and territory could not be explained sufficiently and require further examination, these results indicate gaps in access to evidence-based health information to fight stigma and perceived irrelevance, and a lack of testing facilities across sites.

Moving house ≥ 3 time in the last five years was associated with STI testing. It is unclear as to why those who moved houses tested more frequently than those who moved houses less frequently. The evidence on housing instability and sexual risk behaviour (e.g. inconsistent condom use and having multiple sexual partners) is not always conclusive.^{31,32} In our sample, a higher proportion of those who reported not using any protection methods against STIs at last sex had ever tested for STIs compared with those who reported using condom at last sex. This may be related to perceptions that condom use alone is enough to protect against STIs. However, our interpretation of these results is limited by the absence of specific information about participants' knowledge about STIs and STI prevention. It is important to note that a significant portion of participants with multiple sexual partners in the past year never tested for STIs (33%) and/or did not use a condom at last sex (43%). Similarly, a higher proportion of those who reported having multiple sexual partners in the last year ever tested for STIs compared with participants who reported having 0–1 partner. Never testing for STIs among participants who had multiple sexual partner in the past year aligns with previous studies conducted in Australia,²⁰ Canada,³³ and the US³⁴ that show that those who had less than three partners did not feel at risk, therefore, might not have felt the need to have an STI test. Thus, in our sample, those who reported having 0–1 sexual partner in the past year might not have felt the necessity to be tested

Table 2: Sexual Health service access (n=198).

	%	n
Accessed health service for sexual health ever		
No	41.9	83
Yes	44.4	88
Missing	13.6	27
Type of service accessed^a		
Aboriginal Medical Services**	48.8	43
Local doctor at a general practitioner (GP) clinic	38.6	34
Others	9.0	8
Missing	_*	_*
Reason for not accessing sexual health service^b		
Did not think it was needed	49.4	41
Embarrassment	15.6	13
Lack of access	7.2	6
Others	16.8	14
Missing	10.8	9

*Smaller frequencies (n=<5) have not been mentioned in the table to avoid identification.

**May or may not be ACCHSs.

^aInclude those who ever accessed service for sexual health reasons.

^bInclude those who never accessed service for sexual health reasons.

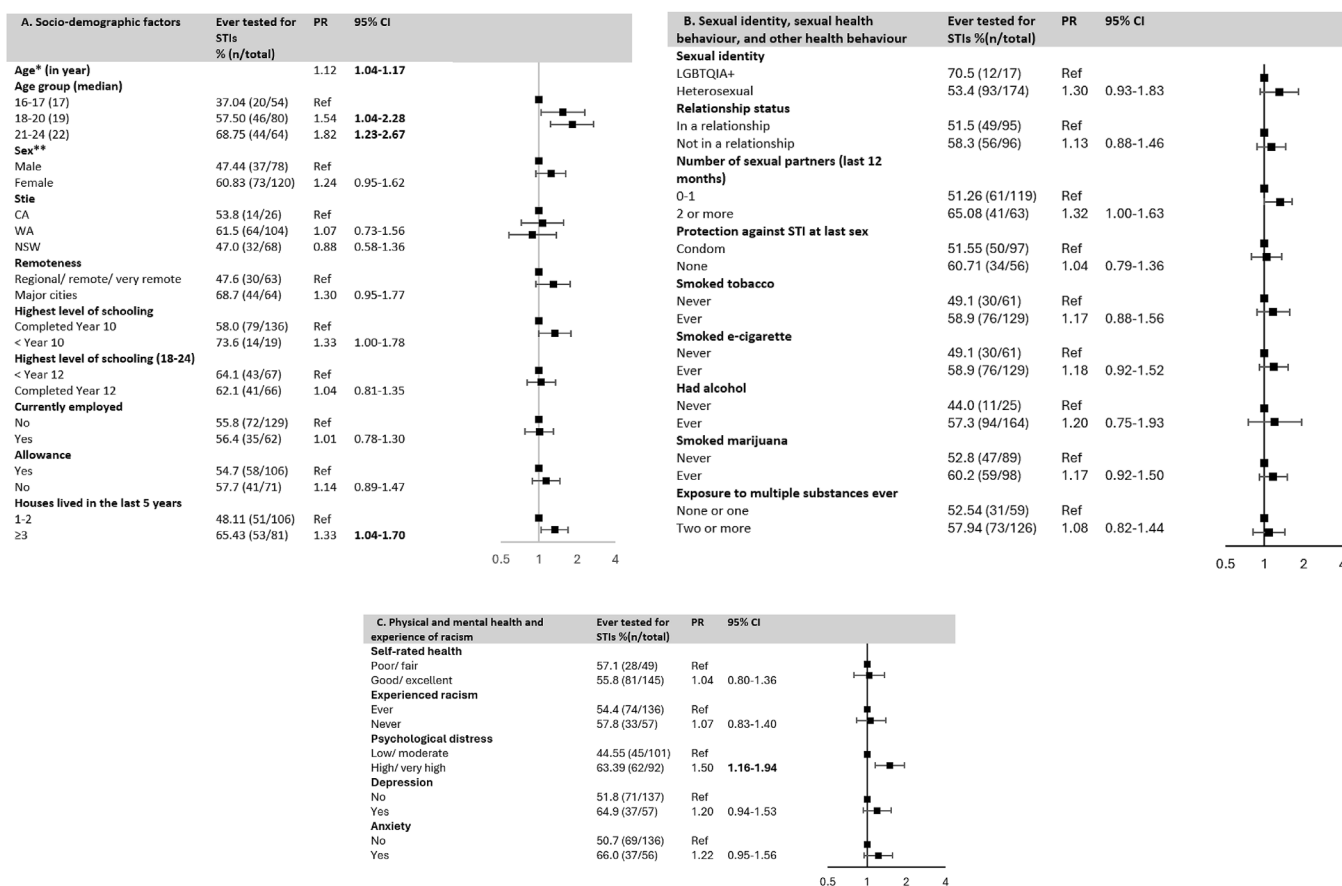
for STIs. If they were in a trusted, steady relationship that might have influenced their decision about whether to have an STI test or not.²⁹ On the other hand, for participants who had multiple sexual partners in the past year, these results may indicate awareness and

understanding of the importance of having an STI test when one has multiple sexual partners, or there is a change of sexual partner. Thus, there is a need for more target approach to empower Aboriginal youth with sexual health wellbeing information highlighting the importance of regular STI testing even when condoms are regularly used and about availability of culturally appropriate and nonjudgemental testing services.

Co-occurrence of sexual risk behaviour and substance use in young adults was reported in other studies.³⁵ We observed that more participants who ever tried tobacco, e-cigarette, alcohol, and/or marijuana reported ever testing for STIs than those who never tried these substances. However, the absence of more detailed data on the use of these substances (e.g. frequency and level of use) restricted our interpretation of this result. Future research should explore co-occurring risk behaviours in Aboriginal youth.

The previous studies show that poor mental health is associated with risky sexual health behaviour.^{36,37} In contrast, in our study participants with high/very high level of psychological distress were more likely to ever test for STIs. The literature also shows that participation in sexual risk behaviour, substance use, and having an STI can be associated with testing for HIV in people with serious mental illness.³⁸ The coexistence of a higher likelihood of ever testing for STI with a high/very high level of psychological distress in this sample may be due to the participants' sexual engagement before the test and an initiative to know whether they had an STI because of that. Furthermore, cross-sectional data did not allow for further explanation of these findings.

Figure 1: Age- and sex-adjusted prevalence ratios of ever testing for STIs. STIs: sexually transmitted infections.



Strengths and limitations

The NextGen study was conducted with strong community engagement in research priority setting, participant recruitment, and research and cultural governance. We contribute more recent evidence to the body of strength-based studies conducted with Aboriginal youth. Although the study may not be powered to detect variations across population subgroups, point estimates provide important much needed initial observations to inform future STI testing strategies and contribute to the development of programs to reduce STIs in Aboriginal peoples, as set out in the fifth National Aboriginal and Torres Strait Islander blood-borne virus and STIs strategy.³⁹

Aboriginal communities are diverse, and our findings may not be generalisable to Aboriginal population of Australia. This sample includes predominantly heterosexual individuals. Therefore, all findings from this study may not apply to sexual health of LGBTQIA+ Aboriginal youth. There is a lack of evidence-based information about gender diverse Aboriginal peoples and their wellbeing.⁴⁰ Future studies should consider increasing the representation of this group. The participants in the cohort studies are healthier than the general population.⁴¹ Majority of the NextGen participants were healthy in relation to important health markers.⁴² The prevalence of STI testing in our study was approximately 10 percentage-point lower (55% vs 65%), than that reported for sexually active Aboriginal youth of the same age group during the similar period (2017–2020) by Goanna Survey 2.¹² Hence, while our absolute estimates of STI testing prevalence may not be directly representative, PRs, which are based on internal comparisons, still provide relevant and contextualised representation of STI testing among Aboriginal youth.⁴³ We presented self-reported health behaviour data that usually attracts stigma (e.g. sexual behaviour and substance use). Therefore, there may be misclassification bias. However, cultural safety measures and data collection through self-administered survey have likely reduced this bias.

Looking forward

These results suggest that STIs may remain undetected and untreated impacting Aboriginal youth's health and wellbeing. Therefore, there is a need for health promotion highlighting the importance of STI testing to empower sexually active Aboriginal youth with sexual health related information that is relevant to their lives to understand the benefits of having regular STI tests and address stigma around STI testing. It is important to interpret our results in the context of early sexual debut, community prevalence, lack of access to youth-friendly testing opportunities, and knowledge about STIs and healthful sexual practice, and stigma associated with STI testing.⁴⁴ Sexual health messaging emphasising regular STI testing for Aboriginal youth must be continued and enhanced, highlighting the necessity of regular STI testing even when condoms are consistently used because condoms may not provide comprehensive protection against STIs.⁴⁵ The strategies to communicate such information culturally appropriately via sexual health education should be explored and examined so that programs are evidence-based and relevant.⁴⁶

The barriers to accessing SHS must be considered while developing programs for Aboriginal youth.^{13,47} ACCHSs were found to be a leading provider of SHS for Aboriginal youth, i.e. access to condoms

and STI testing for Aboriginal youth.^{12,30} To comprehensively address the sexual health needs of Aboriginal youth, ACCHSs need to be adequately resourced with funding and workforce. There is a need for resourcing STI testing to enhance STI testing in regional and remote locations.⁴⁸ The development of Aboriginal health workforce is critical in providing effective care and ensuring cultural safety via fostering Aboriginal leadership.⁴⁹ Opportunistic STI testing needs to be offered every 6–12 months to sexually active Aboriginal youth attending ACCHSs in remote areas, irrespective of the reason for their attendance. Implementation of continuous quality improvement measures in Aboriginal sexual health care setting may have the potential to enhance STI testing.⁵⁰ The perspectives and lived experiences of Aboriginal youth warrants consideration while designing services for them. Ineffective service design was identified as one of the barriers for Aboriginal youth to engage in sexual health care seeking behaviour.^{16,17} The inclusion of peer-educator programs in the existing SHS provisions at ACCHSs may be considered, with appropriate support and supervision for peer educators in place.⁴⁶ Aboriginal youth recognise the importance of safe sexual behaviour and appreciate culturally appropriate and nonjudgemental initiatives towards STI prevention and management.^{13,17,18} Therefore, opportunistic offering of STI testing, in a nonjudgemental and non-stigmatising manner particularly to young adolescents needs enhancement.¹²

There is limited evidence on the motivations of Aboriginal youth's STI testing, specific exploration of which will provide critical insight into their priorities about sexual health and inform policy and programs. Being seen at the clinics and limited access are some of the barriers to their engagement with STI testing.¹³ In Australia, remote mode of STI testing such as online STI testing provisions has been considered as a strategy to make STI testing more accessible, addressing privacy concerns and stigma.^{51,52} However, there is no Aboriginal-specific evidence regarding online testing. Exploration of this new mode of STI testing provision in Aboriginal peoples will provide evidence on acceptance, feasibility, and usefulness of it among the Aboriginal youth and will reveal their preferences for STI testing facilities.

Theoretically informed sexual health promotion may potentially improve STI testing.⁵³ Utilisation of the Behaviour Change Wheel for the exploration of individual, and social and policy environmental factors that facilitates behavioural change, may be considered for program development⁵⁴ while the socioecological model can be employed to explore further individual, family, community, societal, and systemic barriers to engage in STI testing in diverse Aboriginal communities.^{13,55}

Conclusions

Our results highlight a need for consistent and more targeted sexual health promotion through the enhancement of culturally responsive and youth-friendly sexual health education and care for Aboriginal youth. Sexual health messages should be more targeted towards empowering youth by providing information emphasising the importance of having regular STI testing, availability of free testing, and averting associated stigma as a part of a holistic approach to their healthcare and encouraging sexual health care seeking behaviour. STI testing should be made more accessible for those who may experience additional barriers to having regular STI tests.

Ethics approvals

Ethics approvals were obtained from the following Human Ethics Review Boards: Central Australian Aboriginal Human Research Ethics Committee (16-398 [phase 2]), the Western Australian Aboriginal Health Ethics Committee (627 [phase 1]; 719 [phase 2]), the Aboriginal Health and Medical Research Council of NSW Ethics Committee (1255-17), the Alfred Health Ethics Committee (149-15 [phase 1]; 255-16 [phase 2]), and the University of Melbourne Medicine and Dentistry Human Ethics Sub-Committee (1851155). Aboriginal ethics committees approved the submission of this manuscript.

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Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.anzjph.2024.100203>.