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Sexual Health

Supplementary Material

Sexually transmissible infections (STI) and HIV testing and diagnosis among Aboriginal and non-Aboriginal adolescents in contact with the Australian justice system: a cross-sectional study

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Supplementary material

Methods

Covariates

Gender was recorded as male, female or transgender. In this sample, no young person self-identified as transgender.

Age represents the participants' age at the time they completed the survey and was calculated in years or months using date of birth.

Aboriginal status was recorded as Aboriginal, Torres Strait Islander, both Aboriginal and Torres Strait Islander, neither Aboriginal nor Torres Strait Islander or "prefer not to say". The first three response options were coded as Aboriginal.

Remoteness area was recorded by postcode. Using the ARIA (Accessibility/Remoteness Index of Australia) tool,¹ postcodes were recoded as "cities and major regional centres" and "regional centres and other regional areas".

Ever been in juvenile detention was recorded as yes, no and "prefer not to say".

Current legal status was recorded as yes – in juvenile detention, in prison, on community orders, on probation, on a good behaviour bond, "other" or no – none of the above. The variable was recoded dichotomously by combining the six yes options together under "on a sentence or order".

Currently going to school was recorded as at school, not at school and "prefer not to say."

Sexual orientation was recorded as heterosexual/straight, gay or lesbian, bisexual, queer, "not sure/undecided", "something else/other" and "don't want to say". Gay or lesbian, bisexual, queer and "not sure" were recoded as "other than heterosexual". In this sample, no young person self-identified as "something else/other".

Relationship status was recorded as single/never married, living with partner in the same residence, in a relationship but not living with him/her, separated, married, divorced, widowed and "prefer not to say". Living with partner in the same residence and in a relationship but not living together were grouped to create a dichotomous variable single or in a relationship. No participants said they were separated, married, divorced or widowed.

Ever had sex refers to vaginal, anal or oral sex and excludes masturbation. Response options were recorded as never had sex, yes and "prefer not to say".

Explanatory variables

Age when first had sex was recorded in years and then recoded dichotomously as "under 14" or "14 and over". This cut-off point was chosen based on the median age in our sample and previous literature.²

Number of sexual partners in the last 12 months was recorded as a number and then recoded dichotomously as "under three" and "three and over". This cut-off point was chosen based on previous literature.³

Condom use last 12 months was recorded as all of the time, most of the time, some of the time and never. The variable was then recoded dichotomously to indicate those who used condoms all of the time/always and those who did not use condoms all of the time.

Drunk or high last time had sex was recorded as yes, no and “don’t want to say”.

Wanted to have sex last time had sex was recorded as yes, no and “don’t want to say”.

Ever had transactional sex for drugs or money was recorded as yes, no and “don’t want to say”.

Ever worked as a sex worker was recorded as yes, no and “don’t want to say”.

Ever used the internet to look for potential sexual partners was recorded as yes, no and “don’t want to say”. This question referred to the use of internet and social networking websites. Use of apps was not specifically mentioned but could have been inferred as examples of platforms which could be accessed on an app, smartphone, tablet or computer were given.

Ever met face-to-face with a potential sexual partner that you first met on the internet was recorded as yes, no and “don’t want to say”.

Ever sought sexual health information not from the internet and sought sexual information from the internet in the last 12 months were recorded as yes or no. Response options for using the internet included websites, social networking websites, chat room or support group, online personal support or counselling, online self-help and online information about sexual health services in the community.

STI/HIV knowledge was measured with true/false statements (12 statements). Each correct answer was assigned a point. A total of at least nine points was considered a higher score, whereas a total of eight or under a lower score.

Ever used any drugs and ever injected any drugs included cannabis, heroin, other opiates, methadone, suboxone, amphetamine, ice, ecstasy/MDMA, LSD/acid, tranquillisers/benzodiazepines, anaesthetics, volatile inhalants, volatile solvents, steroids and “other”. If a respondent had said yes to any of these, then they were recoded as ever having used or injected drugs, respectively.

Alcohol use disorder was determined by looking at responses from several behavioural questions related to alcohol drinking using the Mini International Neuropsychiatric Interview for children and adolescents.⁴ This scale has also been used in other research studies.⁵

Statistical analysis

Table A. Factors associated with never having had an STI/HIV test (unadjusted regression)

	uOR (95% CI)	p value
Gender		
Female	Ref	
Male	1.80 (1.19, 2.73)	0.005
Age (in months)	0.95 (0.94, 0.97)	<0.001
Aboriginal status		
Non-Aboriginal	Ref	
Aboriginal	1.54 (1.01, 2.34)	0.043
ARIA		
Regional centres and other regional areas	Ref	
Cities and major regional centres	1.14 (0.70, 1.87)	0.590

Juvenile detention			
Ever been	Ref		
Never been	2.23 (1.44, 3.45)		<0.001
Current legal status (on a sentence or order)			
Yes	Ref		
No	1.26 (0.83, 1.93)		0.278
Going to school			
No	Ref		
Yes	2.63 (1.73, 4.00)		<0.001
Sexual orientation			
Non-heterosexual	Ref		
Heterosexual	2.22 (1.15, 4.29)		0.018
Relationship status			
In a relationship	Ref		
Single	2.71 (1.77, 4.15)		<0.001
Age first time had sex			
Under 14	Ref		
14 and over	1.24 (0.80, 1.93)		0.341
Number of sexual partners last 12 months			
Three or more	Ref		
Under three	2.09 (1.34, 3.26)		0.001
Condom use last 12 months			
Not all of the time	Ref		
All of the time	1.92 (1.21, 3.05)		0.006
Drunk or high last time had sex			
Yes	Ref		
No	1.25 (0.79, 1.96)		0.345
Wanted to have sex last time had sex			
No	Ref		
Yes	1.46 (0.67, 3.19)		0.339
Transactional sex			
Yes	Ref		
No	4.86 (1.85, 12.77)		0.001
Sex work			
Yes	Ref		
No	3.34 (0.3, 37.19)		0.327
Used internet to look for potential sexual partners			
Yes	Ref		
No	2.24 (1.20, 4.19)		0.012
Met with someone from internet			
Yes	Ref		
No	1.29 (0.40, 4.19)		0.677
Sought sexual health information not from internet			
Yes	Ref		
No	3.03 (1.97, 4.65)		<0.001
Sought sexual health information from internet			
Yes	Ref		
No	3.36 (1.90, 5.92)		<0.001
STI/HIV knowledge			

Higher	Ref	
Lower	3.31 (2.08, 5.26)	<0.001
Ever used drugs		
Yes	Ref	
No	3.81 (1.84, 7.88)	<0.001
Ever injected drugs		
Yes	Ref	
No	3.82 (1.85, 7.87)	<0.001
Alcohol use disorder		
Yes	Ref	
No	2.75 (1.81, 4.19)	<0.001

Notes: uOR = unadjusted odds ratio; CI = confidence interval; Ref = reference group.
 Bold p values indicate statistical significance (p<=0.05).

Table B. Factors associated with STI diagnosis (unadjusted regression)

	uOR (95% CI)	p value
Gender		
Male	Ref	
Female	2.03 (0.81, 5.10)	0.132
Age (in months)	0.99 (0.95, 1.03)	0.690
Aboriginal status		
Aboriginal	Ref	
Non-Aboriginal	2.36 (0.82, 6.85)	0.113
ARIA		
Cities and major regional centres	Ref	
Regional centres and other regional areas	1.32 (0.46, 3.77)	0.608
Juvenile detention		
Ever been	Ref	
Never been	1.06 (0.42, 2.67)	0.899
Current legal status (on a sentence or order)		
Yes	Ref	
No	2.24 (0.82, 6.14)	0.118
Going to school		
Yes	Ref	
No	1.50 (0.60, 3.76)	0.389
Sexual orientation		
Heterosexual	Ref	
Non-heterosexual	3.02 (0.98, 9.25)	0.054
Relationship status		
Single	Ref	
In a relationship	1.57 (0.63, 3.90)	0.330
Age first time had sex		
14 and over	Ref	
Under 14	1.73 (0.70, 4.31)	0.236
Number of sexual partners in the last 12 months		
Under three	Ref	
Three or more	2.44 (0.89, 6.66)	0.083
Condom use last 12 months		

All of the time	Ref	
Not all of the time	4.10 (1.15, 14.69)	0.030
Drunk or high last time had sex		
Yes	Ref	
No	1.80 (0.68, 4.75)	0.238
Wanted to have sex last time had sex		
No	Ref	
Yes	2.69 (0.33, 21.95)	0.356
Transactional sex for drugs or money		
No	Ref	
Yes	9.00 (2.89, 28.01)	<0.001
Sex work		
No	Wald=0	
Yes		
Used internet to look for potential sexual partners		
No	Ref	
Yes	2.54 (0.84, 7.72)	<i>0.100</i>
Met with someone from internet		
No	Ref	
Yes	1.50 (0.20, 11.09)	0.691
Sought sexual health information – not from internet		
No	Ref	
Yes	1.95 (0.78, 4.90)	<i>0.154</i>
Sought sexual health information from internet		
No	Ref	
Yes	2.73 (1.04, 7.20)	0.042
STI/HIV knowledge		
Lower	Ref	
Higher	2.03 (0.82, 5.06)	<i>0.126</i>
Ever used drugs		
No	Wald=0	
Yes		
Ever injected drugs		
No	Ref	
Yes	1.83 (0.58, 5.70)	0.301
Alcohol use disorder		
No	Ref	
Yes	1.28 (0.50, 3.28)	0.608

Notes: uOR = unadjusted odds ratio; CI = confidence interval; Ref = reference group.

Bold p values indicate statistical significance ($p \leq 0.05$).

P values in *italics* are not statistically significant at $p \leq 0.05$ level, but are ≤ 0.2 , the threshold for inclusion in the adjusted model.

References:

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- ¹ The University of Sydney, Psycho-oncology Co-operative Research Group. ARIA look-up tool [internet]. Sydney: The University of Sydney. [updated June 2022; cited 14 July 2022]. Available at: <https://www.pocog.org.au/aria/default.aspx>.
- ² Woodhead, N., Chung, S. E., Joffe, A. (2009). Protective and risk factors for sexually transmitted infections in middle school students. *Sexually transmitted diseases*, 280-283. doi: <https://doi.org/10.1097/olq.0b013e318195c2e3>.
- ³ Wand, H., Bryant, J., Worth, H., Pitts, M., Kaldor, J. M., Delaney-Thiele, D., Ward, J. (2017). Low education levels are associated with early age of sexual debut, drug use and risky sexual behaviours among young Indigenous Australians. *Sexual health*, 15(1), 68-75. doi: <https://doi.org/10.1071/sh17039>.
- ⁴ Sheehan, D.V., Lecrubier, Y., Sheehan, K. H., Janavs, J., Weiller, E., Keskiner, A., Schinka, J., Knapp, E., Sheehan, M. F., Dunbar, G. C. (1997). The validity of the Mini International Neuropsychiatric Interview (MINI) according to the SCID-P and its reliability. *European Psychiatry*, 12(5), 232–241. doi: [https://doi.org/10.1016/S0924-9338\(97\)83297-X](https://doi.org/10.1016/S0924-9338(97)83297-X)
- ⁵ Boyle, M. H., Georgiades, K., Duncan, L., Comeau, J., Wang, L., 2014 Ontario Child Health Study Team. (2019). The 2014 Ontario child health study—methodology. *The Canadian Journal of Psychiatry*, 64(4), 237-245. doi: 10.1177/0706743719833675.