



# Investigating the factors associated with awareness and use of PEP and PrEP among Queensland tertiary students



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## Background

HIV notifications among young Australians increase 13-fold by the time they reach their early 20s [1]. As young adults enter university life, their patterns of behaviour change place them at increased risk of sexually transmissible infections and consequently HIV risk increases [2-5]. Pre-Exposure Prophylaxis (PrEP) and Post-Exposure Prophylaxis (PEP) are effective biomedical HIV prevention strategies [6-7], however, little is known about PrEP / PEP knowledge and practices among young Australians. This study investigated awareness and use of PrEP / PEP among Queensland Tertiary students.

## Methods

Using data from the 2019 Tertiary Students Sexual and Reproductive Health Survey, descriptive, univariate, and multivariate analyses were conducted (using stata17.0) to investigate potential associations of key variables with PrEP / PEP knowledge and practices. Factors significantly associated with the outcome of interest in the univariate analysis or known to be important factors of HIV risk based on literature were included in the multivariate model. PrEP eligibility criteria were used to assess those eligible for, and currently using PrEP.

## Results

Of the 4,291 respondents, PrEP and PEP awareness was low (21% and 17% respectively), and less than 1% had reported ever using PrEP or PEP (table 1).

Awareness of PrEP / PEP (table 2) was significantly associated with:

- Older age, compared to 18-19-year-olds (aORs in table 2)
- Identifying as non-binary / gender-diverse (aOR PrEP 8.54, PEP 3.91,  $p < 0.05$ ) or a different gender identity (for PEP only aOR 11.81,  $p < 0.05$ ) compared to those identifying as male
- Identifying as MSM\* (aOR PrEP 73.25, PEP 24.35,  $p < 0.05$ ), or a man who has sex with men and women (aOR PrEP 11.11, PEP 6.90,  $p < 0.05$ ) compared to heterosexual identifying men
- Having ever had HIV testing (aOR PrEP 2.28, PEP 2.59,  $p < 0.05$ )
- Condom usage compared to never using condoms (aORs table 2)

Compared to domestic Australian-born students (table 2):

- International students had significantly lower odds of PrEP and PEP awareness, though only PrEP was significant in the final model (aOR PrEP 0.64,  $p < 0.05$ ; PEP 0.93,  $p > 0.05$ )
- Domestic-overseas born students had lower odds of PrEP & PEP awareness however these were not significant in the final model (aOR PrEP 0.84, PEP 0.83,  $p > 0.05$ )

Of those that met PrEP eligibility criteria (n=59) most were under 24-years of age (61.0%, n=36), with only 25% (n=15) reported ever using PrEP.

\* MSM = Men who have sex with men

	N = 4,291	%
<b>Age</b> median age = 21 (IQR=19-25)	18-19 years	27.0
	20-24 years	45.5
	25-29 years	14.9
	30-34 years	5.7
	35-39 years	3.3
	over 40 years	3.6
<b>Gender Identity</b>	Man	29.5
	Woman	68.1
	Non-binary, gender diverse	1.8
	Different identity	0.2
<b>Student Enrolment</b>	Domestic (Australian born)	68.2
	Domestic (Overseas born)	15.2
	International	16.6
<b>Sexual Identity</b>	Heterosexual	57.0
	Men who have sex with men	2.3
	Men who have sex with men and women	2.5
	Women who have sex with women	1.5
	Women who have sex with men and women	10.9
	Unsure	25.8
<b>HIV prevention</b>	PrEP awareness	21.0
	PrEP use	0.5
	PEP awareness	17.4
	PEP use	0.4

Table 2: Adjusted odds ratios for PrEP and PEP awareness

		PrEP		PEP	
		aOR	p-value	aOR	p-value
<b>Age</b>	18-19 years	Ref		Ref	
	20-24 years	2.68	0.00	2.12	0.00
	25-29 years	2.65	0.00	2.24	0.00
	30-34 years	2.86	0.00	2.33	0.00
	35-39 years	1.98	0.02	1.97	0.02
	40+ years	1.17	0.63	1.08	0.82
<b>Gender</b>	Man	Ref		Ref	
	Woman	1.48	0.05	1.44	0.08
	Non-binary / Gender diverse	8.54	0.00	3.91	0.00
	Different identify	1.00	(empty)	11.81	0.03
<b>Sexual Identity</b>	Men who have sex with women	Ref		Ref	
	Men who have sex with men	73.25	0.00	24.35	0.00
	Men who have sex with men + women	11.11	0.00	6.90	0.00
	Men who are unsure	3.46	0.00	1.80	0.12
	Women who have sex with men	0.62	0.00	0.59	0.00
	Women who have sex with women	3.89	0.00	3.20	0.00
<b>Ever had HIV test</b>	No	Ref		Ref	
	Yes	2.28	0.00	2.59	0.00
<b>Condom usage</b>	Unsure	0.92	0.63	1.02	0.93
	Never	Ref		Ref	
	Rarely	1.27	0.22	1.62	0.02
	Sometimes	1.81	0.00	1.54	0.03
	Most of the time	2.02	0.00	1.92	0.00
	Always	1.72	0.00	1.92	0.00
<b>Student Enrolment</b>	N/A	2.37	0.02	1.91	0.09
	Domestic Australian-born	Ref		Ref	
	Domestic overseas-born	0.84	0.25	0.83	0.26
<b>International</b>	International	0.64	0.01	0.93	0.69

Due to collinearity the following variables were removed from sexual identity field 'women who are unsure' and 'unsure'. 'Number of casual partners' and 'country of birth prevalence' were removed as they were not significant in the final model.

## Discussion

Our findings demonstrate that a large portion of PrEP eligible university students are not accessing HIV prevention options.

In our study, PrEP / PEP awareness significantly increased with age and domestic Australian born status, indicating a gap in biomedical HIV prevention knowledge in those of younger age and overseas-born students.

Of those eligible for PrEP, the majority were under 24 years of age and reported never having accessed PrEP, signifying a need to improve PrEP awareness among young people who may be at risk of HIV.

This research highlights the need for tailored health promotion activities targeting young people as well as improved access for international students or those who may be Medicare-ineligible. Improving awareness and access to PrEP can help achieve Australia's target to end HIV transmission by 2025.

## References

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