

Supplemental Digital Content 1

Baseline characteristics of TGW and stratified by partner status

Characteristics	TGW (n = 36)	Single (n=20)	Living together with partners (n=16)	P- value [†]
Occupation				0.19
Unemployed/home duties /retired/street singer	3(8.3)	0(0)	3(18.8)	
Employed/freelance	18(50)	11(55)	7(43.8)	
Sex worker	15(41.7)	9(45)	6(37.5)	
STI history				
None	24(66.7)	14(70)	10(62.5)	
Syphilis	7(19.4)	3(15)	4(25)	0.68
Gonorrhea	1(2.8)	0(0)	1(6.3)	0.44
Herpes simplex (HSV) infection	0(0.0)	0(0)	0(0)	-
Non-specific urethritis	0(0.0)	0(0)	0(0)	-
Anogenital warts, location	3(8.3)	3(15)	0(0)	0.24
Other	2(5.6)	1(5)	1(6.3)	>0.99
lifetime sexual behavior				
Number of lifetime sexual partners				
Median(IQR)	1700(1235 -2880)	1650(750- 2000)	1700(1500 - 6785)	0.29

Characteristics	TGW (n = 36)	Single (n=20)	Living together with partners (n=16)	P- value[†]
Age of sexual debut (years)				
Median(IQR)	15.5(14.0-18.0)	14.5(12.5-17.5)	17(15-19)	0.15
Recent sexual behavior				
In the past 6 months, number of anal sexual partners				
Median(IQR)	45(3-180)	50(3.5-150)	42.5(3-180)	0.29
In the past 6 months, frequency of anal sexual acts per week				
Median(IQR)	4(2-4)	4(2-4)	4(2-4)	0.32
In the past 6 months, any sexual partners with known HIV-positive status				>0.99
Yes	2(5.6)	1(5)	1(6.3)	
No	4(11.1)	2(10)	2(12.5)	
Not sure	24(66.7)	13(65)	11(68.8)	
Missing	6(16.7)	4(20)	2(12.5)	
Anal insertive, Number who had sex activity in this route	13	10	3	
Condom used in the past 6 month,				0.71

Characteristics	TGW (n = 36)	Single (n=20)	Living together with partners (n=16)	P- value [†]
Always	8(61.5)	5(50)	3(100)	
Sometimes	3(23.1)	3(30)	0(0)	
Never	2(15.4)	2(20)	0(0)	
Anal receptive, Number who had sex activity in this route	30	16	14	
Condom used in the past 6 month,				0.40
Always	17(56.7)	10(62.5)	7(50)	
Sometimes	9(30.0)	3(18.8)	6(42.9)	
Never	4(13.3)	3(18.8)	1(7.1)	
Oral insertive, Number who had sex activity in this route	15	11	4	
Condom used in the past 6 month,				>0.99
Always	6(37.5)	4(33.3)	2(50)	
Sometimes	5(31.3)	4(33.3)	1(25)	
Never	5(31.3)	4(33.3)	1(25)	
Oral receptive, Number who had sex activity in this route	27	16	11	
Condom used in the past 6 month,				0.38
Always	11(40.7)	7(43.8)	4(36.4)	
Sometimes	8(29.6)	3(18.8)	5(45.5)	

Characteristics	TGW (n = 36)	Single (n=20)	Living together with partners (n=16)	P- value[†]
Never	8(29.6)	6(37.5)	2(18.2)	

[†] Fisher' s Exact test for comparison of proportion of characteristics between groups
Mann-Whitney two-statistic for comparison of median of characteristics between groups

Supplemental Digital Content 2

Prevalence of high and low-risk HPV types stratified by HIV status

(excluded 11 participants who have HPV result as invalided, N = 381)

HPV Type	Overall n = 381	HIV status		<i>p</i> -value
		HIV negative n = 142	HIV positive n = 239	
High risk				
HPV16	76 (20)	22 (15.5)	54 (22.6)	0.09 ^a
HPV18	47 (12.3)	13 (9.2)	34 (14.2)	0.15 ^a
HPV31	20 (5.3)	4 (2.8)	16 (6.7)	0.10 ^a
HPV33	19 (5)	2 (1.4)	17 (7.1)	0.01^a
HPV35	13 (3.4)	2 (1.4)	11 (4.6)	0.14 ^b
HPV39	36 (9.5)	7 (4.9)	29 (12.1)	0.02^a
HPV45	28 (7.4)	8 (5.6)	20 (8.4)	0.32 ^a
HPV51	46 (12.1)	13 (9.2)	33 (13.8)	0.18 ^a
HPV52	44 (11.6)	18 (12.7)	26 (10.9)	0.60 ^a
HPV56	19 (5)	4 (2.8)	15 (6.3)	0.13 ^a
HPV58	58 (15.2)	12 (8.5)	46 (19.3)	0.005^a
HPV59	53 (13.9)	14 (9.9)	39 (16.3)	0.08 ^a
HPV68	49 (12.9)	16 (11.3)	33 (13.8)	0.47 ^a
Any high risk HPV	259 (68)	76 (53.5)	183 (76.6)	< 0.001^a
Low risk				
HPV6	48 (12.6)	12 (8.5)	36 (15.1)	0.06 ^a
HPV11	64 (16.8)	16 (11.3)	48 (20.1)	0.03^a
HPV26	17 (4.5)	6 (4.2)	11 (4.6)	0.86 ^a
HPV40	12 (3.2)	0 (0.0)	12 (5.0)	0.005^b
HPV42	2 (6)	10 (7.0)	13 (5.4)	0.52 ^a
HPV53	31 (8.1)	9 (6.3)	22 (9.2)	0.32 ^a
HPV54	20 (5.3)	5 (3.5)	15 (6.3)	0.24 ^a
HPV55	26 (6.8)	6 (4.2)	20 (8.4)	0.12 ^a
HPV61	19 (5)	4 (2.8)	15 (6.3)	0.13 ^a
HPV62	37 (9.7)	6 (4.2)	31 (13)	0.005^a
HPV64	1 (0.3)	0 (0.0)	1 (0.4)	-
HPV66	26 (6.8)	4 (2.8)	22 (9.2)	0.02^a
HPV67	6 (1.6)	1 (0.7)	5 (2.1)	0.42 ^b
HPV69	14 (3.7)	1 (0.7)	13 (5.4)	0.02^a
HPV70	31 (8.1)	8 (5.6)	23 (9.6)	0.17 ^a
HPV71	7 (1.8)	0 (0)	7 (2.9)	0.049^b

HPV72	17 (4.5)	2 (1.4)	15 (6.3)	0.03^a
HPV73	22 (5.8)	5 (3.5)	17 (7.1)	0.15 ^a
HPV81	22 (5.8)	4 (2.8)	18 (7.5)	0.056 ^a
HPV82	13 (3.4)	2 (1.4)	11 (4.6)	0.14 ^b
HPV83	11 (2.9)	2 (1.4)	9 (3.8)	0.22 ^b
HPV84	29 (7.6)	5 (3.2)	24 (10.0)	0.02^a
CP6108	22 (5.8)	4 (2.8)	18 (7.5)	0.056 ^a
IS39	9 (2.4)	2 (1.4)	7 (2.9)	0.49 ^b
Any low risk	244 (64)	62 (43.7)	182 (76.2)	< 0.001^a

HPV

a = Chi-square test

b = Fisher's Exact test

Supplemental Digital Content 3

Prevalence of high and low-risk HPV types Stratified by sites

(excluded 11 participants who have HPV result as invalided, N = 381)

HPV Type	Sites				<i>p</i> -value
	Thailand	Jakarta	Kuala	Bali	
			Lumpur		
n = 205	n = 93	n = 31			
High risk					
HPV16	38(18.5)	16(17.2)	17(32.7)	5(16.1)	0.10 ^a
HPV18	28(13.7)	8(8.6)	6(11.5)	5(16.1)	0.58 ^a
HPV31	10(4.9)	3(3.2)	7(13.5)	0(0.0)	0.04^b
HPV33	13(6.3)	1(1.1)	3(5.8)	2(6.5)	0.16 ^b
HPV35	6(2.9)	2(2.2)	5(9.6)	0(0.0)	0.10 ^b
HPV39	15(7.3)	10(10.8)	7(13.5)	4(12.9)	0.35 ^b
HPV45	14(6.8)	7(7.5)	5(9.6)	2(6.5)	0.88 ^b
HPV51	18(8.8)	13(14.0)	10(19.2)	5(16.1)	0.14 ^a
HPV52	20(9.8)	13(14.0)	5(9.6)	6(19.4)	0.36 ^a
HPV56	8(3.9)	4(4.3)	3(5.8)	4(12.9)	0.19 ^b
HPV58	35(17.1)	10(10.8)	7(13.5)	6(19.4)	0.47 ^a
HPV59	28(13.7)	15(16.1)	7(13.5)	3(9.7)	0.83 ^a
HPV68	22(10.7)	14(15.1)	7(13.5)	6(19.4)	0.49 ^a
Any high risk HPV	139(67.8)	60(64.5)	38(73.1)	22(71)	0.74 ^a
Low risk					
HPV6	25(25.8)	9(11.7)	11(6.6)	3(3.9)	0.22 ^a
HPV11	31(15.1)	19(20.4)	10(19.2)	4(12.9)	0.60 ^a
HPV26	8(3.9)	6(6.5)	2(3.9)	1(3.2)	0.80 ^b
HPV40	8(3.9)	3(3.2)	0(0.0)	1(3.2)	0.61 ^b
HPV42	10(4.9)	9(9.7)	4(7.7)	0(0.0)	0.18 ^b
HPV53	17(8.3)	7(7.5)	3(5.8)	4(12.9)	0.72 ^b
HPV54	9(4.4)	4(4.3)	3(5.8)	4(12.9)	0.26 ^b
HPV55	12(5.9)	7(7.5)	4(7.7)	3(9.7)	0.73 ^b
HPV61	6(2.9)	8(8.6)	2(3.9)	3(9.7)	0.08 ^b
HPV62	17(8.3)	14(15.1)	2(3.9)	4(12.9)	0.11 ^b
HPV64	1(0.5)	0(0.0)	0(0/0)	0(0.0)	-
HPV66	18(8.8)	5(5.4)	3(5.8)	0(0.0)	0.31 ^b
HPV67	2(1.0)	1(1.1)	2(3.9)	1(3.2)	0.21 ^b
HPV69	6(2.9)	4(4.3)	3(5.8)	1(3.2)	0.64 ^b

HPV70	17(8.3)	7(7.5)	2(3.9)	5(16.1)	0.29 ^b
HPV71	5(2.4)	1(1.1)	0(0.0)	1(3.2)	0.50 ^b
HPV72	9(4.4)	2(2.2)	2(3.9)	4(12.9)	0.12 ^b
HPV73	15(7.3)	3(3.2)	3(5.8)	1(3.2)	0.60 ^b
HPV81	11(5.4)	4(4.3)	5(9.6)	2(6.5)	0.55 ^b
HPV82	4(2.0)	2(2.2)	4(7.7)	3(9.7)	0.03^b
HPV83	4(2.0)	4(4.3)	1(1.9)	2(6.5)	0.28 ^b
HPV84	18(8.8)	4(4.3)	5(9.6)	2(6.5)	0.51 ^b
CP6108	12(5.9)	3(3.2)	6(11.5)	1(3.2)	0.23 ^b
IS39	2(1.0)	5(5.4)	1(1.9)	1(3.2)	0.09 ^b
Any low risk	124(60.5)	60(64.5)	34(65.4)	26(83.9)	0.09 ^a

HPV

a = Chi-square test

b = Fisher's Exact test