Awareness, Interest, and HIV Pre-Exposure Prophylaxis Candidacy Among Young Transwomen

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To the Editor,

TRANSWOMEN (i.e., people whose gender identity is different from that typically associated with their male sex assigned at birth) continue to bear a high burden of HIV. A review by Baral et al. of 39 studies up to 2011 found a pooled HIV prevalence of 19.1% among transwomen worldwide.¹ There have been dramatic declines in US HIV diagnoses over the last decade among most populations at risk for HIV,² with transwomen being an exception. A 2013 estimate of HIV among transwomen in San Francisco reached a peak prevalence of 42.4%.³ Research with young transwomen (YTW) in the San Francisco Bay Area found a 4.7% HIV prevalence among youth ages 20–24,⁴ suggesting an important time for evidence-based interventions to halt the HIV epidemic among YTW.

Pre-exposure prophylaxis (PrEP) is the first biomedical intervention with promise for reducing HIV acquisition in YTW, yet research suggests little knowledge of or interest in PrEP in the trans community.⁵ In 2013, several years after the release of iPrEx results, a population-based HIV behavioral surveillance study of 233 transwomen in San Francisco found that only 13.7% had heard of PrEP.⁶ Yet 30% of HIV-negative transwomen in the study were eligible for PrEP, leaving questions as to why transwomen are not aware of or engaging with this prevention tool.

This study was conducted to determine whether YTW would be candidates for PrEP based on Centers for Disease Control and Prevention (CDC) guidelines for men who have sex with men (MSM) given the absence of guidelines for transwomen, and to assess their awareness and interest in PrEP. We conducted a secondary analysis using a unique dataset of 298 YTW aged 16–24 years in the San Francisco Bay Area during 2012–2014.

First we determined how many of the 298 YTW in the sample would be PrEP candidates based on CDC guidelines for MSM and what demographic and behavioral factors were correlated with meeting CDC criteria. YTW were considered PrEP candidates using CDC guidelines if they met the following criteria=(1) adult, (2) HIV-negative, (3) had any male partners in last 6 months, (4) were not in primary partnership with a HIV-negative man and had one of the following: any anal sex w/o condoms in last 6 months OR any STI diagnosed in last 6 months or was in a primary partnership with someone who is HIV-positive.

We also gathered data in 2014 from a sub-sample of participants ($N=67$) to determine PrEP awareness and interest among YTW. PrEP awareness was assessed with the question, “Researchers are studying whether antiretroviral medicines could possibly be taken to prevent HIV infection. Before today, have you ever heard of people who do not have HIV taking antiretroviral medicines, to keep from getting HIV?” Those who had heard of PrEP were asked, “Would you be willing to take anti-HIV medicines every day to lower your chances of getting HIV?”

Overall, about one-third (35%) of the sample were PrEP candidates based on CDC guidelines ($n=105$). There were no significant differences in meeting PrEP criteria by age, race/ethnicity, gender identity, or sexual orientation (Table 1). Significantly more YTW who had a history of sex work than those with no such history were PrEP candidates; yet among sex workers, almost half did not meet PrEP criteria (57.9% vs. 42.1%, $p<0.001$). Significantly fewer YTW who had a history of runaway than those who did not were PrEP candidates (43.3% vs. 56.7%, $p<0.001$). When comparing between those with a known HIV-negative status and those with an unknown HIV-status, there were significantly more HIV-negative YTW who were PrEP candidates (HIV-negative 38.6% vs. 61.4% compared to HIV-unknown 29.4% vs. 70.6%, $p<0.01$).

Only 42.7% of 67 YTW in the sub-sample had heard of PrEP prior to our survey, and only one youth reported taking PrEP. Yet 73.9% ($n=51$) of YTW were interested in taking PrEP. Significantly more YTW aged 19 and older than under 19 were interested in PrEP (84.3% vs. 15.7%, $p<0.001$) (Table 2). White (35.3%), Latina (21.6%), and mixed (19.6%) youth made up the majority of those interested in PrEP, while few black/African American (9.8%) and Asian YTW were interested. Almost all participants who had a history of sex work were interested in taking PrEP ($n=4$ of 6 total sex workers).

Significantly more participants with health insurance were interested in PrEP compared to those with no health insurance (74.5% vs. 25.5%, $p=0.03$). Participants’ biggest concerns about taking PrEP were others seeing them with HIV medications (55.7%), the difficulty with taking a daily medication (49.3%), interactions with hormone therapy (35.6%), and medication side effects (34.6%). Few YTW were concerned about affordability (2%), effectiveness of PrEP alone and in addition to other prevention methods (2%), or how to determine if they are at high risk (2%).

TABLE 1. DEMOGRAPHIC COMPARISON BETWEEN YOUNG TRANSWOMEN AGED 16–24 YEARS WHO WOULD MEET AND NOT MEET CRITERIA FOR PrEP INDICATION BASED ON CDC GUIDELINES, N=298

<i>Variable</i>	<i>Level</i>	<i>Overall n, %</i>	<i>Yes</i>	<i>Meets criteria (%)</i>	<i>No</i>	<i>No (%)</i>	<i>Statistic</i>	<i>p</i>
Age	16–18	43 (14.4)	11	25.6	32	74.4	2.05	0.36
	19–21	95 (31.9)	35	36.8	60	63.2		
	22–24	160 (53.7)	59	36.9	101	63.1		
Race/ ethnicity	Latina	66 (22.1)	26	39.4	40	60.6	8.98	0.11
	White	110 (36.9)	29	26.4	81	73.6		
	Black/African American	39 (13.1)	20	51.3	19	48.7		
	Asian	18 (6)	6	33.3	12	66.7		
	Other	21 (7)	7	33.3	14	66.7		
	Mixed	44 (14.8)	17	38.6	27	61.4		
Gender identity	Female	130 (43.6)	48	36.9	82	63.1	3.44	0.18
	Trans	99 (33.2)	39	39.4	60	60.6		
	Other	69 (23.2)	18	26.1	51	73.9		
Education	High school or less	162 (54.4)	65	40.1	97	59.9	3.26	0.07
	Some college or more	136 (45.6)	40	29.4	96	70.6		
Sexual orientation	Straight/heterosexual	88 (29.5)	40	45.5	48	54.5	9.29	0.16
	Gay or lesbian	58 (19.5)	15	25.9	43	74.1		
	Bisexual	23 (7.7)	8	34.8	15	65.2		
	Pansexual	42 (14.1)	10	23.8	32	76.2		
	Queer	46 (15.4)	18	39.1	28	60.9		
	Questioning, don't know, or no preference	21 (7.1)	8	38.1	13	61.9		
	Other	20 (6.7)	6	30	14	70		
Ever ran away	Ran away	157 (52.9)	68	43.3	89	56.7	8.51	0
	No	140 (47.1)	37	26.4	103	73.6		
Ever did sex work	Sex work	38 (13.3)	22	57.9	16	42.1	8.25	0
	No	247 (86.7)	80	32.4	167	67.6		
Housing	Own/rent	86 (28.6)	28	32.6	58	67.4	7.97	0.16
	With a partner or friends	46 (15.3)	23	52.3	23	47.7		
	With parents or guardian	89 (29.6)	25	28.1	64	71.9		
	Hotel or rooming house	11 (3.7)	4	36.4	7	63.6		
	Transitional housing (shelter)	49 (16.3)	18	37.5	31	62.5		
	Other	20 (6.6)	7	35	13	65		
Health insurance	Yes	240 (80.3)	84	35.1	156	64.9	0.01	0.93
	No	59 (19.7)	21	36.8	38	63.2		
Using hormones	Yes	172 (57.3)	68	40	104	60	3.3	0.07
	No	128 (42.7)	37	29.1	91	70.9		
HIV status	HIV positive	14 (4.7)	0	0	14	100	9.55	0.01
	HIV negative	233 (78.2)	90	38.6	143	61.4		
	Unknown	51 (17.1)	15	29.4	36	70.6		
Ever incarcerated	Incarcerated	15 (5)	8	53.3	7	46.7	1.51	0.22
	No	283 (95)	97	34.3	186	65.7		
County of residence	San Francisco	123 (41.3)	50	40.7	73	59.3	5.87	0.21
	Alameda	81 (27.2)	26	32.1	55	67.9		
	Santa Clara	27 (9.1)	7	25.9	20	74.1		
	Other	39 (13.1)	16	41	23	59		
	Not applicable or missing	28 (9.4)	6	21.4	22	78.6		

Based on our findings, YTW demonstrate promise for PrEP uptake, and health care settings may be the place to begin identifying YTW PrEP candidates. However, much work must be done to include those who would not be considered PrEP candidates and those who are not connected to health care. Only one-third of our sample were PrEP candidates based on CDC guidelines. Because CDC guidelines for PrEP are not trans-specific, factors important to assessing HIV risk among YTW may be missed. For example, data on sexual networks suggests that transwomen's risk for HIV may be less tied to individual

risk behavior and more related to risky sexual networks.⁷ And only slightly more than half of YTW with a history of sex work were candidates for PrEP. Due to the economic depravity faced by many adult and young transwomen,¹ sex work may occur intermittently among some as a means to survive. Therefore, a history of sex work engagement in addition to housing status and income may be important factors in determining whether YTW are candidates for PrEP.

Our findings also suggest little awareness of PrEP among YTW. Studies have found lack of awareness and poor

TABLE 2. CORRELATES OF PREP INTEREST AMONG YOUNG TRANSWOMEN IN SAN FRANCISCO BAY AREA, *N*=67

<i>Variable</i>	<i>Level</i>	<i>Overall n (%)</i>	<i>Interested n</i>	<i>Interested %</i>	<i>p</i>
Age	16–18	19 (28)	8	15.7	0
	19–21	21 (30)	20	39.2	
	22–24	27 (39)	23	45.1	
Race/ethnicity	Latina	16 (23)	11	21.6	0.52
	White	26 (38)	18	35.3	
	Black/African American	5 (7)	5	9.8	
	Asian	5 (7)	5	9.8	
	Other	3 (4)	2	3.9	
	Mixed	12 (17)	10	19.6	
Gender identity	Female	32 (46)	23	45.1	0.28
	Transgender female or transwoman	19 (28)	17	33.3	
	Other	16 (23)	11	21.6	
Education	High school or less	36 (52)	24	47.1	0.08
	Some college or more	31 (45)	27	52.9	
Income	\$1000 or less	56 (81)	42	82.4	1
	More than \$1000	11 (16)	9	17.6	
Ever run away	Ran away	36 (52)	30	58.8	0.16
	No	31 (45)	21	41.2	
Ever did sex work	Sex work	4 (6)	4	8	0.57
	No	61 (88)	46	92	
Housing	Own/rent	16 (23)	14	27.5	0.09
	With a partner or friends	9 (13)	9	17.6	
	With parents or guardian	25 (36)	16	31.4	
	Hotel or rooming house	1 (1)	0	0	
	Transitional housing or homeless shelter	12 (17)	9	17.6	
	Other	4 (6)	3	5.9	
Health insurance	Yes	53 (77)	38	74.5	0.03
	No	13 (19)	13	25.5	
Hormone use	Using hormones	43 (62)	36	70.6	0.07
	No	24 (35)	15	29.4	
Health care access	Problems getting health care	14 (20)	11	22.9	1
	No	50 (72)	37	77.1	
Feminization	Gender feminization	21 (30)	19	37.3	0.07
	No	46 (67)	32	62.7	

dissemination of PrEP information among adult transwomen,⁵ cisgender women,⁸ and even gay and other MSM.^{9,10} Arguably, cisgender women and MSM have had some access to PrEP as they have been targets of clinical trials, and in San Francisco, MSM have been the primary target of interventions to promote PrEP.¹¹

There are currently no efforts for increasing PrEP awareness among transwomen. Despite lack of access and interventions targeting transwomen, there was considerable interest in taking PrEP among YTW. Data with MSM has found that intention to take PrEP was correlated with younger age (i.e., <35), and like younger MSM, YTW may be a population apt to adopt this HIV prevention tool.¹²

Our study points to health care settings as an important place to reach YTW who may be PrEP candidates but have no awareness of PrEP. YTW in this study who knew their HIV status were most likely to be PrEP candidates and were likely connected to a HIV testing site, clinic, or their primary health care provider. YTW with health insurance who were also likely connected to a health care setting were most likely to be interested in PrEP. To promote PrEP awareness, uptake,

and inclusiveness in this important new phase of HIV prevention, trans-specific guidelines for PrEP candidacy and interventions are needed that address the unique access points and barriers for YTW.

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