Published in final edited form as:

AIDS Care. 2020 February ; 32(2): 255–260. doi:10.1080/09540121.2019.1634787.

Increasing PrEP Uptake and Adherence among MSM and TW Sex Workers in Lima, Perú: What and Whom Do Different Patients Trust?

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Abstract

In Perú, men who have sex with men (MSM) and transgender women (TW) suffer rates of HIV 50 times greater than the general population. MSM or TW sex workers (SWs) are at especially high risk. Daily oral pre-exposure prophylaxis (PrEP) effectively prevents HIV infection if patients adhere to a daily or on-demand regimen. Necessary levels of adoption and adherence require data-driven intervention strategies for these marginalized groups. We conducted qualitative content analysis of data obtained from focus groups (FGs) with MSM and TW SWs. Both groups expressed strong skepticism about the motives behind international drug trials, and the safety of participating in them. Important differences between MSM and TW groups' beliefs about trustworthy information as well as community and public institutions also emerged. MSM SWs were less trusting of information from other MSM SWs, and preferred to receive information from institutional medical sources, while TW SWs preferred to receive information from other TW SWs. Successful strategies to encourage PrEP uptake and adherence must address the distrust patients feel towards international and institutional actors by providing patients with tailored, reliable information from local and community sources that they trust.

Keywords

PrEP; HIV; Perú; Lima; men who have sex with men; transgender women

Introduction

HIV in Perú is concentrated among men who have sex with men (MSM) and transgender women (TW). The prevalence among the general population is 0.2%, 12–22% among MSM (Pun, 2015), and 30% for TW in Lima (Silva-Santisteban et al., 2012). MSM and TW sex workers (SW) are particularly high-risk (Castillo et al., 2015; Tabet et al., 2002). Pre-Exposure Prophylaxis (PrEP) reduces the transmission of HIV among adherent study participants (Baeten et al., 2012; Choopanya et al., 2013; Grant et al., 2010; Marrazzo et al., 2015; Thigpen et al., 2012; Van Damme et al., 2012), but efforts to implement PrEP have been limited by noncompliance, despite Perú's international infrastructure for HIV research and treatment (Goicochea & Montoya, 2014; Salazar et al., 2016).

Perú's responses to HIV have included treatment guidelines, sentinel surveillance assessments of HIV prevalence in the MSM and TW populations, and extensive international collaborations, as represented by our own study team (see Methods). These partnerships have provided the groundwork for PrEP implementation (Baeten et al., 2012; Galea, J. T. et al., 2011; Lee et al., 2015; Reisner et al., 2017). In 2016, Perú participated in iPrEx, a global PrEP study among MSM and TW. In Lima and Iquitos. PrEP is also available through demonstration projects, although the Ministry of Health (MoH) has not adopted PrEP (Giovanni et al., 2016). Yet, PrEP detection was lowest in Perú relative to other countries within the iPrEx study (Grant et al., 2010; Liu et al., 2014). To understand this disconnect, Peruvian stakeholders have identified several barriers to PrEP rollout, including mistrust of medical and governmental institutions (Galea, Jerome T. et al., 2011; Reisner et al., 2017). Indeed, some research has suggested that mistrust concerning PrEP may be particularly elevated (Lippman et al., 2015).

Our study expands our knowledge about how medical mistrust affects PrEP uptake among TW and MSM SWs in Perú (Castillo et al., 2015; Sanchez et al., 2007; Tabet et al., 2002). Of interest are respondents' awareness of HIV-risk disparities; how this awareness affects their perceptions about benefits of PrEP for their communities; why distrust persists; and community-preferred sources for PrEP information.

Methods

IRB approval was provided by both the University of Washington School of Medicine, and the Ethics Committee of Impacta.

Study context and team

Prostitution is poorly-regulated in Perú, with many SWs in the informal sector, where protections are rarely enforced (Mujica, 2013; US Department of State, 2010). Anti-retroviral therapy (ART) is freely available through the MoH for only for patients diagnosed with HIV (Caceres & Mendoza, 2009). The study was conducted in collaboration with two

Peruvian institutions, Impacta and Epicentro (a community center for LGBTQ). Our study team included a medical student and two professors at the University of Washington, two professors at the University of Illinois, one professor at The University of California Los Angeles, and Peruvian directors of Impacta and Epicentro.

To be eligible for the study, participants had to identify as MSM or TW SWs, and provide informed consent. Snowball sampling was coordinated by a clinical psychologist familiar with the study population. We conducted four semi-structured FGs. Two were composed of MSM SWs, with 8 and 10 participants. One TW SW group was composed of SWs who worked downtown, containing 8 participants. The 2nd TW SW group was made up of 12 members of Feminas, a TW support group. Open-ended questions were asked about participants' understanding of PrEP, attitudes about its use, and possible success of a PrEP intervention. Examples of questions include "What benefits do you feel PrEP might have for SWs" and "What might be done to increase confidence in PrEP?" FGs were conducted in Spanish by two experienced members of the study team. Participants received lunch and 35 soles (US\$10.45).

Data analysis

Transcripts were evaluated using multifaceted content analysis with inductive and deductive components, an accepted tool in medical research used to investigate attitudes present in a population (Hsieh & Shannon, 2005). Two experienced coders from the study team analyzed transcripts using the qualitative research software Dedoose. The coding process and resulting excerpts were discussed extensively with the research team before conclusions were drawn from the results.

Results

Table 1 describes the demographic characteristics of the 18 MSM and 20 TW SW participants in our sample.

Table 2 provides exemplar quotes for three major emergent themes. Overall, MSM and TW participants were aware of and attributed their elevated risk for HIV to their sex work and gender/sexual identities. They also highlighted *how* PrEP would be specifically useful for them and their communities. Simultaneously, participants reported mistrust about PrEP roll-out in their communities, due to concerns about drug safety in the context of being vulnerable subjects and potential unethical gains for the pharmaceutical industry. This concern also manifested in suspicion of the motives of the healthcare industry's efforts to eliminate drug costs and facilitate access. Respondents were particularly suspicious of international stakeholders, noting that uncertainty about the origins of an institution engenders distrust, and detailing strong associations between harmful intentions and international institutions.

When asked about solutions to the problems of mistrust, both groups reported a need for 'trustworthy information' in order to combat skepticism, however differences emerged. TW SWs preferred to receive information from TW SWs and community health workers (CHWs) from within their social networks, citing experiences of transphobia, and a shared

understanding of the unique challenges associated with TW sex work. MSM respondents preferred MSM-tailored media campaigns, in nightclubs or through text messaging. When describing the use of these methods, MSM respondents also clarified the need for trustworthy information about treatments that had been rigorously tested in developed countries.

Discussion

PrEP uptake has been poor in Perú (Deutsch et al., 2015; Liu et al., 2014), partially due to mistrust that persists despite local and international efforts (Galea et al., 2011; Reisner et al., 2017). Our work offers insights into *how* mistrust manifests regarding PrEP among MSM and TW SWs. While participants are aware of their risk and why PrEP may be particularly useful for them, there was significant mistrust associated with drug safety in the context of wealthy nations' experimentation on Peruvians and unethical financial gains. Medical mistrust associated with unknown side effects PrEP has been found in multiple US cities (Cahill, Taylor et al., 2017b; García & Harris, 2017) as well as in other low and middle income countries (LMICs). Relatedly, suspicions of unethical motivations underlying free PrEP, especially with regard to international collaborators' investments in Peruvian PrEP rollout (e.g., profits for industry; benefits for patient populations in other countries), emerged, in line with previous research regarding vulnerable Peruvian populations (Galea et al., 2011). It may be helpful for researchers to consider these beliefs and perceptions within the context of ongoing controversies around lack of transparency and disclosure in Latin American clinical trials (Lemmens & Vacaflor, 2018; Minaya, Fuentes-Delgado, Ugalde, & Homedes, 2017)(Draper et al., 2017; Giovanni et al., 2016; Yi et al., 2017)

Our study also offered key solutions that highlighted the importance of understanding the unique needs of different SW subpopulations. Specifically, our results suggest that PrEP interventions for the highly vulnerable TW SW population should prominently include members and CHWs of the TW community, with an appreciation of the TW-specific barriers and facilitators to PrEP use. In contrast, Lima's MSM population is larger and less interconnected than its TW counterpart, and is characterized by fear and distrust (Bayer et al., 2014). MSM SWs' distrust of one another detracted from the appeal of a CHW system, resulting in a preference for external testimonials about PrEP safety, and a desire for wide dissemination of information in public venues. Our findings parallel other research in the US, regarding MSM's preferences for objective-seeming, percentage based communication strategies about PrEP efficacy (Underhill et al., 2016). Thus, our findings suggest that PrEP implementation may be effective, if interventionists are trusted and considered altruistic by participants (Sevelius, Keatley, Calma, & Arnold, 2016)(Draper et al., 2017; Giovanni et al., 2016; Yi, S. et al., 2017).

This study had several limitations, including non-random snowball sampling, limiting generalizability. We attempted to address this issue by asking participants to speak for their communities. Feminas participants may have non-representative views, given their self-selection into a TW support group. This group's data were not considered in analyses focused on the role of support groups and peer educators, and the research team took the

context of the support group's responses into account during qualitative analysis. Finally, PrEP is not yet widely available in Perú, making discussions of its implementation hypothetical.

Conclusions

Despite internationally-supported efforts at HIV prevention and evidence of PrEP efficacy, distrust of medical institutions and foreign actors constitutes a significant barrier to PrEP use among MSM and TW SWs in Lima. Despite understanding their disproportionate risk and accepting the concept of PrEP, MSM and TW participants sought access to more 'trustworthy information' on the nature of PrEP and the motivations for its prescription. The different sources considered trustworthy by MSM and TW suggest that population-specific education efforts offering greater transparency about international involvement in patient care, will be necessary.

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Table 1.

Demographic characteristics of focus group participants

Age	
18–27	21
28–37	13
38–45	4
Total	38
Self-proclaimed Gender identity	
Male (MSM)	18
Female (TW)	20
Total	38
Racial Group	
White	14
Black	9
Mestizo	13
Other	2
Total	38
Educational level completed	
Primary School Incomplete	0
Primary School complete	3
Secondary School Incomplete	14
Secondary School Complete	15
Post-secondary degree incomplete	5
Post-secondary degree complete	1
Total	38
Past or Present Study Participation	
Yes	2
No	36

Table 2:

Emergent themes and exemplar quotes.

Emergent Themes	Exemplar Quotes	
	MSM SW	TW SW
Elevated risk due to sex work and sexual/gender identity	MSM 8828: "[SWs] are the most vulnerable people- it would be good to start with them".	TW 7018: "Like it or not, we are a high-risk group because most of the girls do sex work, which puts us at higher risk."
	MSM 8091: "[PrEP] is for people that don't have ordinary lives- normal people only have sex about once a month, but for prostitutes it is every day, so the risk is greater. So those people at greater risk should be the ones to take it [PrEP]. It is more apt for people that do sex work."	
Awareness of Elevated HIV risk & prioritization of PrEP roll-out among MSM, TW, and SW communities	MSM 9712: "In addition to using condoms, [PrEP] would be another very good element of help for all of us that work in this field [sex work]."	TW respondent 9993: "It seems perfect to me since the majority of diseases come from clients... when the condom breaks... so the pill would be an extra support for all of us."
		TW 9859: "I think it [PrEP] is very good, it's like a trump card. That is, if you don't use a condom, at least you have a second option, you can protect yourself by taking PrEP."
Medial mistrust about PrEP roll-out among MSM, TW, and SW communities	MSM 2399: "They're going to experiment on me, they're going to sell my blood to see if it [medicine] works or not."	Moderator: "Have you heard negative comments about PrEP?" TW 7782: "That it is an experiment; that they are experimenting on us... why would they [community members] take it if they're not really sure it's effective, if it's not really going to protect them from HIV?"
	MSM 8743: "There are rumors that they are making diseases with the pill- they give you the pill and put a sickness in you."	
	MSM 9712: "They make new diseases to sell you more pills- many people die this way."	
	MSM 8828: "They're going to give you soda, and crackers [the snack provided by the interviewers] and you think it's all gonna be free? They have to make a profit here."	TW 7762 [in relation to HIV prevention] "People with HIV get the pills for free. Healthy people, obviously, will have a cost. We're not going to get free pills to stay healthy... this will demotivate a lot of people."
Concerns about international stakeholders and collaborations' motives	MSM 2399: "Of course brother, it's all a business."	
	MSM 1212: "They say that in everything that comes from outside there are sometimes hidden intentions- like organ trafficking and all those things. One imagines a thousand reasons to doubt what they tell you. It will be very difficult to get healthy people without HIV to pay attention."	

Emergent Themes	Exemplar Quotes	
	MSM SW	TW SW
Trustworthy Sources regarding PrEP rollout		MSM 2399: Yes, that it comes from outside... that could be 100 or 80% of the distrust, that it comes from far away. We all know that some good things come from there, but we all know that there are also very bad things.
	Peer SW and CHW's	TW 15, 8041: "It seems perfect to me that there be promoters [CHW's] that are well-informed... following up on the girls taking the pills, to clear away their doubts and explain that the side effects are just at the beginning, so they are calmer."
		TW 3288: "It's a good idea, because each of us have different anecdotes, either with our partners or our clients... we can all tell and support each other."
	Community media campaigns and communications	MSM 7072: "Get the DJ to say it, so there is always a reminder!" MSM 4532: It could be by cell phone, or when there is an activity, in a party or at a march, but don't just use the internet... there are lots of ways to communicate with people, to give testimonials so they are convinced.
	Demonstration of drug safety from developed countries	MSM 2399: Newspapers, radio. MSM 6780: Just like they did in... the United States, you should inform the people, inform the media
		MSM 6780: Testimonials from other countries where people have tried the medicine. With these testimonials, informing the people... In no time at all it will be a boom here, in Perú.