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Social network organization, structure, and patterns of influence within a community of transgender women in Lima, Peru: implications for biomedical HIV prevention

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Abstract

Understanding social network structures can contribute to the introduction of new HIV prevention strategies with socially marginalized populations like transgender women (TW). We conducted 20

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semi-structured interviews and four focus groups (n=32) with TW from selected social networks in Lima, Peru between May-July, 2015. Participants described layers of social influence from diverse actors in their social networks. The majority identified a close relative as their primary social support, with whom they confided secrets but avoided issues of transgender identity, sexuality, and sex work. Participants described close circles of TW friends with whom they shared information about gender identity, body modification, and sexual partners, but avoided issues like HIV. Community leadership included political leaders (who advocated for transgender rights) as well as social leaders (who introduced TW to hormone therapy, body modification, and commercial sex). Detailed analysis of TW social networks can contribute to implementation and acceptability of new HIV prevention technologies.

Abstracto

Comprender la estructura de las redes sociales puede contribuir a introducir nuevas tecnologías de prevención del VIH en poblaciones marginalizadas como las mujeres trans (MT). Realizamos 20 entrevistas semi-estructuradas y 4 grupos focales (n=32) con MT de redes sociales seleccionadas en Lima, Perú entre Mayo y Julio del 2015. Las participantes describieron niveles de influencias sociales por parte de diversos actores dentro de sus redes sociales. La mayoría identificó a un familiar cercano como su principal apoyo social, a quien confiaron secretos mas no temas de identidad transgénero, sexualidad, y trabajo sexual. Las participantes describieron círculos cercanos de amigas MT con quienes compartieron información sobre identidad de género, modificación del cuerpo, y parejas sexuales, pero evitaron temas como el VIH. El liderazgo comunitario estuvo representado por líderes políticos (que hacían abogacía en pro de los derechos de personas transgénero) y también líderes sociales (que presentaron la terapia hormonal, modificación del cuerpo y el sexo comercial ante las MT). El análisis detallado de las redes sociales de MT puede contribuir a la implementación y aceptabilidad de nuevas tecnologías para la prevención del VIH.

Keywords

Transgender; Social Network; HIV Prevention; Peru

Introduction

The social and sexual networks of transgender women (TW) play an important, though poorly understood, role in HIV transmission and prevention. Epidemiologic analyses have emphasized the disproportionate frequency of HIV infection among TW and their sexual partners in diverse global contexts (1–4). More recently, the importance of social networks in structuring social support, emotional resiliency, and health promotion behavior among TW has also been acknowledged (5–7). What has only begun to be addressed are ways to leverage existing social and sexual networks of TW to support new health promotion behaviors, specifically the introduction and dissemination of new biomedical HIV prevention interventions for TW in resource-limited settings of the global South (8–10). To address this gap, and in preparation for an anticipated network-based PrEP adherence intervention, we sought to understand existing network structures, patterns of behavioral

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influence, and potential areas for intervention within the social networks of selected groups of TW in Lima, Peru.

In Peru, 30% of TW are estimated to be HIV-infected, with many more at high risk for seroconversion (11–13). Reasons for the high prevalence of HIV among Peruvian TW can be traced to multiple interconnected factors: 1) Social and economic marginalization that often results in involvement in commercial sex; 2) Cultural ideals of feminine passivity and interpersonal power dynamics, with both romantic and commercial partners, that encourage TW to assume the *pasiva* (receptive) role during intercourse and thereby limit control over condom use, and 3) Routine stigma and discrimination in healthcare systems that discourage engagement with HIV prevention and treatment services (14–16). Jointly, these structural factors contribute to a high prevalence of HIV in Peru's TW communities and speak to the critical need for new biomedical prevention strategies that are introduced, disseminated, and controlled by TW.

Unfortunately, efforts to both evaluate the prevention needs of TW in Peru and to implement new strategies to address HIV risk in this population have so far been insufficient. Previous epidemiologic studies often addressed TW as a subgroup of MSM without adequately differentiating their unique patterns of HIV and STI transmission (17–19). Public health interventions frequently made the same error and failed to address how TW identities, partnership formations, and network structures influenced their specific HIV prevention needs and access to healthcare services (20–24). In the evaluation of new biomedical strategies like pre-exposure prophylaxis (PrEP), the iPrEx clinical trial of HIV chemoprophylaxis showed no observable effect of PrEP on HIV incidence among TW—an outcome likely due to poor adherence to study medication as no cases of HIV seroconversion were diagnosed among women with adequate serum levels of Truvada (25, 26). Subsequent studies of PrEP implementation in Latin America have demonstrated better, though still dismal, rates of adherence among TW (27, 28). In terms of Treatment as Prevention (TasP), while Peru offers universal access to antiretroviral therapy, HIV-infected TW maintain low rates of linkage to and retention in care, increasing their risks of disease progression and ongoing HIV transmission (29). To address these deficiencies, future research on biomedical HIV prevention for TW must include trans-specific analyses and interventions that both address the specific sociocultural and contextual realities of HIV and STI risk in TW populations, and that draw on existing community organizational structures and mechanisms of behavioral influence to introduce, disseminate, and strengthen norms of HIV prevention among TW (30–32).

Social networks have been identified as important structures for defining, maintaining, and modifying community norms among TW in diverse global settings (33–37). Social networks influence HIV-associated risk behaviors, provide resources for emotional and economic support, and mediate access to other social support systems (38–43). Within Latin America, networks formed by TW can compensate for experiences of social marginalization and limited access to structural resources by informally circulating information on HIV prevention techniques, substance use, cross-gender hormone therapy, and surgical body modification resources (44–46). In Peru, TW social networks have been shown to support resiliency-based strategies for navigating HIV prevention and care systems through

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knowledge sharing, mutual support in accessing clinical services, social cohesion and community-based emotional support (47, 48). However, it is not clear from the current data whether or how existing TW social networks could be used as a structure to support the introduction and dissemination of new biomedical HIV prevention technologies like PrEP.

In preparation for a study of social network-based systems to support PrEP use among TW, we conducted a series of interviews and focus groups with community leaders and members of existing social network clusters in Lima, Peru. To examine the potential utility of existing social networks and define their possible role in PrEP delivery systems for transgender women, we used qualitative methods to: 1) Describe the structure and function of social networks in selected groups of TW from Lima, Peru; and 2) Explore community-based understanding of whether and how social networks could be deployed to support PrEP uptake and adherence among TW. Using the experiences of these selected TW networks as a model, we sought to answer the following questions: 1) What is the structure and composition of existing social networks of TW in Lima, and do these networks translate into a “TW community”? 2) Do TW social networks maintain identifiable leaders, and/or How is leadership organized in TW social networks? 3) Who are typical sources of social and emotional support for TW, and what kinds of support do TW receive from these different social ties? 4) How are social norms of behavior created, maintained, and modified within TW social networks? and 5) (How) could these social network patterns be used to introduce and support HIV prevention innovations?

Methods

Study Design

In preparation for a planned study of social network-based strategies to promote PrEP adherence among TW in Peru, we conducted a series of 20 individual interviews and 4 focus group (FG) discussions (n = 32) with a total of 52 TW in Lima, Peru from May-July 2015. All interviews and FGs were conducted by native Spanish speakers with extensive experience in qualitative research on gender, sexuality, and HIV prevention with TW. Interviews lasted from 30–45 minutes and FGs lasted approximately 60 minutes. Semi-structured interviews and FGs used prepared scripts to address key topics of interest while allowing space for the interviewers or facilitators to explore new topics in additional depth. Interviews and FGs were conducted in a sequential process: (1) qualitative interviews with TW community leaders, (2) qualitative interviews with individual members of TW social networks (network-based sampling), and (3) FGs with members of geographically diverse TW communities (convenience sampling). In-depth qualitative interviews were used to understand social network composition and to explore individual-level experiences (i.e., importance of, challenges with, etc.) related to social networks. Finally, FG discussions were employed to obtain an understanding of community-level perspectives on the potential use of social networks and social media to disseminate information about HIV-related risks, vulnerabilities, and prevention approaches specific to TW in Peru (49).

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Qualitative Interview Guides

In-depth interviews with TW community leaders: Five in-depth qualitative interviews were conducted with TW community leaders identified during previous ethnographic research by members of our team (50, 51). Prior ethnographic studies, conducted beginning in 2002, have explored the intersection of gender, sexuality, HIV and STI risk in urban, coastal Peru and provided a foundation for subsequent research on HIV prevention in these communities (52–54). Community leader interviews explored social structures in the TW population, patterns of behavioral influence, and the role of community leadership. Interview questions addressed participants' perceptions of the existence of a TW community, their role as leaders in that community, other forms of leadership among TW, and patterns of influence in TW networks.

In-depth interviews with TW individuals: Following interviews with community leaders, the second stage of interviewing aimed to garner the perspectives of members of selected TW social networks. Interviews were conducted with 15 TW recruited through existing social network ties using a snowball selection process. To reflect the structure of the planned social network adherence intervention, participant selection was designed to mirror previously observed patterns of social interaction and recruitment within the local community. Leaders were asked to nominate potential "seeds" from local social networks, with subsequent interview subjects identified using a chain recruitment pattern until reaching a point of qualitative data saturation. The first half of each interview focused on participants' social networks, including daily patterns of behavior, interactions with the larger transgender community, sources of emotional and material support, and frequency and content of peer conversations about health and well-being. Typical questions explored levels of friendship, trust, transparency, and intimacy with various contacts within the participant's social network. Interviewers then asked participants to describe different types of contacts in their life (e.g. close friends, acquaintances, family members), and to describe their typical interactions with these people and the types of support they might receive from these contacts. Participants were asked to consider who they would share a secret with, who they would go to if they had a problem, and what topics they felt comfortable discussing with different people in their network. The second half of the interview outlined participants' sexual networks by asking them to describe their main sexual partner (if applicable) and their last three sexual contacts. For each contact, interviewers queried partner type (e.g., stable, casual, anonymous, commercial), the partner's gender and sexual identity, and sexual practices performed with each partner. The semi-structured interview format allowed us to optimize data collection during interviews while also keeping the discussion brief enough to respect participants' other scheduling commitments and maintain their interest in the conversation.

FGs with TW: The final stage of qualitative research included 4 FGs with 7–10 TW in each group (n=32). These discussions were designed to assess the acceptability and potential effectiveness of specific components of the planned network-based adherence intervention. Participants were recruited from local TW communities by peer recruiters using convenience sampling methods. Facilitator questions explored participants' knowledge and perceptions of PrEP for HIV prevention, TW use of social media and interactions with other TW via social

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media platforms, and the potential acceptability of a social network-based adherence intervention.

Participants and Eligibility

Recruitment procedures varied according to the stage of the formative research and were informed by a purposive sampling approach (55). For stage 1, Community leaders were recruited by study staff based on findings from previous ethnographic work with the local TW community. Social network members for stage 2 were recruited using a snowball sampling method, with initial seeds identified by the community leaders identified during the first stage of research, and continuing until interviewers agreed that they had reached a point of data saturation. Community members in the focus group discussions of stage 3 were identified by peer recruiters using convenience sampling methods, with recruitment continuing until the pre-defined series of 4 FGs had been completed. For all stages of the qualitative process, enrollment was limited to individuals who were at least 18 years-old, were assigned a male sex at birth, self-identified as TW, male-to-female transgender, or elsewhere on the trans-feminine continuum (e.g. “trans”, “transgender”, “travesti”), and provided written informed consent. Participation was not restricted according to self-reported HIV serostatus. Participants were provided 15 *Nuevos soles* (approximately $5 USD) compensation for their transportation costs.

Data Analysis

Audio recordings were transcribed by native Spanish speakers and analyzed in their original language by members of the research team who were either native or fluent Spanish speakers. Guided by immersion crystallization, a qualitative approach that emphasizes both examining data and reflecting on the experience of being immersed in the data analysis, transcripts were analyzed using an inductive and deductive approach to identify themes and relationships between themes (56). The analytic process was divided into multiple parts: i) A core group of 2–3 study staff with previous experience in qualitative analyses independently reviewed the transcripts, FG guides and sociodemographic surveys, and then coded each of the interview and FG events; ii) Initial sets of themes were independently assessed by two members of the research team who subsequently met to compare themes, discuss and reconcile any differences, and refine a set of codes and their definitions; iii) A structured codebook was developed by transforming the themes into codes; iv) The coding scheme was then applied by two members of the team with any discrepancies discussed and resolved with a third member of the qualitative analysis group. Qualitative analysis was managed using Dedoose Version 5.0.11 (Socio Cultural Research Consultants, LLC, www.dedoose.com).

Human Subjects Protections

Protocols and study materials were approved by the UCLA Office for Human Research Participant Protections (IRB #13–001898), and the *Comite de Etica* of the *Asociacion Civil Impacta Salud y Educacion* (IRB #0089–2014-CE) prior to initiating any study procedures. IRBs from Brown University and The Fenway Institute deferred review to the UCLA OHRPP. All subjects provided verbal informed consent prior to participation.

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Participant Characteristics

Interviews and FGs were limited to leaders and members of selected TW communities in Lima, Peru. Demographic characteristics of interview and FG participants are described in Tables I and II.

Results

Key themes identified during data analysis include: 1) Social network structures and community formation among TW in Lima; 2) Forms of network organization and community leadership; 3) Sources of social and emotional support; and 4) Communication about HIV/STI risk within TW social networks and community responses to HIV and STIs. Participant quotes are identified in parentheses by the Focus Group number or by the individual's pseudonym, reported age, and community leader status (if applicable).

Participants reported routine socialization with other TW at bars or discos and in communal living situations where they discussed their everyday lives. One participant described her daily interactions with other TW: "we talk about what happened during the night, what we did. We tell each other what we have done with the clients, which guy touched you, or how much money you made. And then we wait for the next night, and it's like that every day." (Focus Group 1) Sometimes conversations addressed topics specific to the lives of TW, "Hormones, how they are going for you, stuff like that, like make-up, hairstyles, girl stuff." (Monica, 23) Participants often described socializing in closed circles of TW with similar interests and backgrounds, "Because we maintain a daily rhythm that's very similar. We work—we don't work in what are commonly considered areas where TW can work—and we have a social life like any other girl. That's why I think we get along well." (Noemi, 24) Although socialization within these circumscribed groups was considered a central part of their daily lives, the larger TW community was often described in negative terms, "because in the world of trans girls, the great majority… it's a terrible world. Almost no one gets along with anyone else." (Alejandra, 25)

Community Formation

Instead of a single, unified community, TW in Lima typically divided themselves into "*Micro-redes*" (Elisabeth, 40; Leader) or micro-networks of social network clusters. These micro-networks were typically formed through chain-recruitment methods in which, "one brings in a friend, and the friend brings in another friend, and they go on like that, getting to know each other." (July, 33 - Leader) Micro-networks often defined themselves in opposition to other TW groups and discriminated against other TW according to their group's specific understandings of gender and femininity, "because if you are with your group and you see someone who doesn't completely conform, you don't call them '*Trans*' or '*Travesti*', you call them '*maricon*' [faggot], and you say, 'Those [men] are faggots,' because we have rules and we all have to follow them." (Esmerelda, 42; Leader) Similarly, diversity of sexual identities and of sexual roles during intercourse—of TW who identify as *activa* (insertive) or *moderna* (versatile) instead of the traditional *pasiva* (receptive)—often led to divisions within the community:

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> I have a friend—you could call her a '*Trans Activa*' or what they call '*Moderna*', a trans who looks like a woman but who penetrates. And so, my trans friends who are younger say, 'But supposedly you are trans, how can you go around doing that?' And it seems hypocritical to me, because if she wants to do that, she feels happy and lives her sexuality like that, then it's normal, no?
>
> (Eva, 24)

These divisions between TW were believed to prevent community organizing on a national or municipal level since micro-network formations resulted in, "small groups from the trans community that fight amongst themselves and don't know how to centrally organize themselves or make a call to action." (July, 33; Leader) Despite this de-centralization of the TW community, existing social network clusters were understood to provide a structure for the introduction and dissemination of new information such that, "by zone or by neighborhood there will always be—always—among the girls there will be a group of 10 to 7 who are friends and form a little group. And what they will do, as soon as one is informed, she will inform the others." (Katia, 35; Leader) The strengths and limitations of these diverse community network formations was reflected in one community leader's complaints about the lack of a centralized organizing structure: "There still does not exist any form of community organization on the level of… like a National Consultation, it doesn't exist. What happens in reality is that the leaders come here to Lima to get together with other leaders, who are the ones to bring information to the different girls." (July, 33; Leader)

Community Leadership

Within these community structures, leadership manifested in different forms and according to specific issues: i) Politics and transgender rights; ii) Body modification and aesthetics; and iii) Commercial sex. Traditional leaders, including most of the women previously identified by our team as leaders, prioritized issues of community organization, human rights, and access to healthcare and governmental services. Community leaders were described as those, "who want to know what it means to organize, or to create a big NGO," (Elisabeth, 40; Leader) who would publicly stand up for TW, "Against problems, against the *serenazgo* [District Police], against whatever happens, mostly for safety. Others defend the right to healthcare." (Gracia, 22; Leader) Participants also described a competitive social hierarchy between community leaders, "For me, my points of reference are H. and G., but between them you can tell that there is a rivalry: For knowledge, for who is better positioned in the hierarchy, for who is talked to more or listened to more in the community." (Esmerelda, 42; Leader)

Other forms of leadership were seen in TW who provided information on or access to make-up, hairstyling, and body modification practices for other TW. Given the lack of accessible, gender-affirming healthcare, including feminizing hormone therapy and breast or buttock implants, participants often described use of unsupervised injections of hormones or silicone provided by experienced community members: "they know where the sites are [for licensed treatment], but they don't go there because of shame or mistreatment… Among themselves, they prescribe the hormones and apply liquid silicone, or industrial silicone, which is the cheapest." (Esmerelda, 42; Leader) In response to discrimination in traditional healthcare

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settings, TW described organically developed community structures to provide alternative mechanisms to access medical procedures:

> In the group they say a lot of things, that this person has experience applying silicone, for example, and so this trans girl—she is 40 years old—she is the one who manages it, saying 'I will inject the silicone, nothing will happen.' And so the girls begin to think that she is a good leader at applying silicone, and so word gets around and everyone goes there.
>
> (Katia, 35)

Aside from the risks of unsupervised medical procedures with unregulated materials, some TW political leaders denigrated those who led body modification practices in the community as simple technicians, "I don't consider them leaders. That is, I would not consider anyone who applies silicone to be a leader… they have worked in the area of applying silicone, nothing else, period." (July, 33; Leader)

The third area of TW community leadership was described among women who organized commercial sex work at different venues. Among TW sex workers,

> *La más bagre* [the toughest one] is the leader. She is the one who confronts the *serenazgo* [community police], who confronts the police, she is the one who knows everything, the one who cares for the others—maybe one of them has been hit, she goes to their house. We call them the *mamis* [mothers].
>
> (Esmerelda, 42; Leader)

Mamis who organized their local commercial sex network were generally older and/or more experienced, and maintained certain key characteristics, in the words of one participant:

> 1) She knows how to drink beer; 2) She knows how to get clients; 3) She confronts the *serenazgo*, she knows how to fight; 4) She beats the others if they behave badly or if she is defending her group; 5) She maintains order within the group of sex workers so that they don't fight—she says, 'Now it's your turn, not yours.' And if they complain, she beats them. It's as simple as that.
>
> (Esmerelda, 42; Leader)

Mamis were seen as essential for gaining access to a specific social network or geographic venue for sex work, as seen in one participant's story of arriving in Lima from the provinces:

> I knew her from Iquitos. I don't remember her feminine name, I mostly know her as *La Negra* [The Black Woman], even though she's blonde. When I stood there on the avenue, my friend O. brought me over, and not all of the sex workers want you there, and some of the older ones came over and said to me, 'Who are you? Who brought you here?' And I said 'O., my friend.' And right then *La Negra* appeared and said 'What are you doing?' They wanted to throw me out, but she protected me, she saved me. So, I have respect for her.
>
> (Serena, 30)

Other TW sex workers described a complex relationship of cautious respect for their *mami* but differentiated these work-related relationships from true friendships:

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Josefa: Not only me, but every trans girl has her protector. If not, they kick you out, they beat you.

Interviewer: And do you consider her your friend?

Josefa: No, not that either. I appreciate her.

(Josefa, 26)

Similar to other kinds of informal community leaders, political organizers had little respect for the commercial sex *mamis* but considered them an essential link in the chain of communication where, "the majority of the *mamis* only know about the streets, they know very little about politics. But you teach them so that they can then teach their girls." (Elisabeth, 40; Leader)

Migration

Although not initially planned as a focus of our research, geographic migration emerged as a key element in defining the social networks of TW in Lima. Many of the women interviewed described migrating to Lima through social network chains of TW that supported them in living freely as transgender. These migrant networks helped them to establish independent lives away from their families of origin, to escape discrimination and abuse from their provincial communities, and/or to seek greater economic opportunity in the nation's capital. One community leader described the process where,

> They bring them, other trans girls who are older, because the situation in the provinces is difficult. Because some of them are discriminated against by their parents, their relatives, because they don't accept them as they are. For being gay or trans, they don't accept them, they throw them out of the house. And they bring them here, and they live for a period of time with the *mamis*, and the *mamis* prepare them, they give them wigs, makeup.
>
> (Elisabeth, 40; Leader)

As another participant recounted in her personal experience:

> I have a friend who, 15 years ago, she said to me, 'Listen, help me. I want to escape from my house.' And I helped her—at that moment, her mother wasn't around, there wasn't anyone at home—and I helped her to pack her things, we got out, and she left, she went to Lima, and she said to me, 'Some day I will come back, and I will return you the favor.' And in fact, she did come back last year… she said to me, 'If I bought you the ticket, would you go to Lima?' I didn't even think about it three times, not even my family knew that I was going to go.
>
> (Serena, 30)

Once in Lima, micro-networks of migrants formed according to Peru's three main geographic regions (Coast, Highlands, and Rainforest): "There are girls who come to Lima, migrating from other parts of the country, and usually they group themselves, those who come from the Rainforest, and those who come from the Highlands, and it's always like that, divided by region or by custom." (Gracia, 22; Leader) Through these migrant communities,

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participants received mutual support and replicated the traditional customs and practices of their hometown, such as in a weekly gathering of TW from the Loreto region where, “we get together in the house that a friend has in Surquillo, we make food from the Rainforest… 30 of us, every Sunday we have a *pollada* [chicken party]—in the Rainforest we call it a *parillada* [grill party] because we cook the chicken on a grill—with rice, yucca, fish, plantains, *juane*.” (Josefa, 26) These migrant communities also served an important role in helping TW adjust to life in the big city as, “Here it’s much harder, life is harder.” (Liliana, 37)

Social Support Systems

In spite of these well-formed network structures of transgender women, participants described receiving different types of social support from the TW community than from other contacts within their lives, specifically family members. Participants frequently described close and trusting relationships with cisgender female members of their family of origin, like a mother, a sister, or a cousin. Participants often considered their relationships with family members closer and more trustworthy than their friendships with other TW where, “For me, friendship doesn’t exist. My only friend is my own personality, and my mother is my confidante,” (Josefa, 26) or, “I don’t have close friends, my only close friend would be my cousin. But close friends, friends that I could—no, they aren’t friends. We know each other by the word ‘friends’ but it doesn’t go any deeper than that.” (Veronica, 38) However, participants noted that they also censored themselves or avoided discussing sensitive topic matters with female family members, such as transgender identity, commercial sex work, and HIV or STIs. Rather, conversations were limited to more neutral topics, such as, “Clothes, how we are dressed, what we are wearing, but not personal things —not about men, that sort of thing.” (Yolanda, 23) Others described supportive relationships with family members where sex work was simply not mentioned, “She gives me advice, but she doesn’t know that sometimes I do this kind of work, providing services. Although she must know, she just doesn’t say anything. She’s not an idiot.” (Veronica, 38)

In their relationships with other TW, most participants drew contrasts between a small circle of close, trusting friendships and a larger sphere of casual acquaintances with whom they shared practical information. While some participants had no one that they would consider a true friend, many described having a small group of two to four close friends with whom they could share personal information and receive emotional support: “If you are asking about trans girls, I have four true friends. Because I have a ton of casual friendships, I know a lot of people.” (Noemi, 24) These friends were described as close, “because a friend isn’t just anyone, it’s only the person who gives you their hand and helps you, who is with you in the moments when you need them.” (Alejandra, 25) Participants described turning to specific members of their circle for different kinds of advice or counseling such that, “With K. I tell her about things that happen to me in the street, but for questions about health and family problems, I go to O.” (Liliana, 37) Even within these close friendships, however, participants often set limits, “Because we know each other from before and we have a kind of trust between ourselves—but not too much,” (Liliana, 37) or withheld certain aspects of their lives, “Even though she is someone so close that I could share many things, there are still some things that I end up holding back.” (Estrella, 40) These close friendships often

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involved material support, in terms of shared housing, economic assistance, or practical aspects of commercial sex where, “sometimes when I didn’t even have one *sol*, I would tell them and they would help me, and it was reciprocal—when I had something I would give it to them, or when we all had money we would all go out together.” (Serena, 30)

In contrast, casual acquaintances were typically described as functional and tied to practicalities of sex work or other functional concerns of daily life. Within these relationships, “We talk about things that happen to us in the street, about which clients you have, about the boys we are seeing, those things.” (Liliana, 37) Other relationships were based on shared social or political objectives but did not involve deep personal connections, “it’s an organizing group for the trans movement in Peru… they are people who I know but they aren’t my friends, we just have a common interest.” (Eva, 24) Due to the presumed lack of confidentiality, private information would never be revealed to an acquaintance, “I couldn’t confide in this person, and even though I would say to her, ‘Guess what? But don’t tell this to anyone!’ Because I know that she is going to tell someone, because I know her.” (Estrella, 40) Although participants did not maintain a great deal of trust in their casual acquaintances with other TW, they were still considered important because, “they understand you, they advise you, they talk about their treatments… they know you, they know what to say and how to talk about these subjects.” At the same time, conversations between TW included a significant amount of social posturing, particularly in denying the painful, common experiences of discrimination they experienced:

> We as transwomen, we know that we have masculine features. We try to hide them, but when we go out into society, those markings are recognized and we are bullied for them. It’s super uncomfortable, and to not have any emotional support…. Sometimes among friends we don’t talk about it, because as they say ‘Ay, I reign,’ which is like saying ‘Ay, no. Today I went out in the street and no one said anything to me, no one knew I was trans,’ and it’s not necessarily true.
>
> (Eva, 24)

HIV and STIs

Within this context, HIV infection was often considered stigmatizing, private, and unreportable to family or friends. Despite the high prevalence of HIV among TW in Lima, when talking about HIV, “they don’t say ‘Guess what? I was diagnosed,’ for fear that the other person will tell someone else, and they will tell another, and then they will tell a client…. So when they talk about HIV they say, ‘Look, soand-so died because she didn’t take care of herself.’” (July, 33; Leader) Competitive relationships between TW in sex work further complicated disclosures of a potentially stigmatizing diagnosis, where, “If you make the mistake of telling someone who may be your friend, but who is also your competitor in sex work, forget it. They will mark you, and they will do it so that they can take the plaza away from you.” (Esmerelda, 42; Leader) Despite this fear of social exclusion from other TW, most HIV-infected TW also had limited access to family support and to institutional healthcare resources so that,

> The majority of *travestis* will disclose their diagnosis to other trans women, but they won’t disclose to their family or to their partner—there are some who have

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> various partners and don't disclose—and so, when the HIV is well advanced, then they will begin to tell their family and their partner… that's why transwomen tend to die very quickly.
>
> (Elena, 27)

Discussion

Our findings illustrate the complexity of network structures, sources of interpersonal support, and patterns of behavioral influence in selected social networks of transgender women in Lima, Peru. Key findings include the diverse forms of community leadership and the construction of alternate institutional resources, the distinctions between small groups of close social contacts and a larger community of TW acquaintances, the importance of family members in providing social and emotional support, and the differentiation of appropriate topics of conversation between friends, acquaintances, and family members. In addition to their value as questions for social analysis, we emphasize the importance of these findings in the context of the HIV epidemic among TW and for the development and dissemination of new biomedical HIV prevention interventions for TW in Latin America.

Community leadership in our sample was found both in the traditional political activists who advanced issues of human rights and social justice, and also in the individuals who addressed issues of importance to TW, either by providing community-based access to body modification and hormone therapy, or by organizing commercial environments for sex work. Traditional community leaders described their efforts to organize other TW in political activities to promote transgender rights, including access to legally recognized name changes, freedom from harassment, discrimination, and violence, and legislation of anti-discrimination statutes. In their role as public figures, these women play an important role in setting community standards and are critical liaisons with the international scientific community for introducing any new HIV prevention interventions. While these political leaders were recognized as important community representatives, participants also identified alternate leaders who managed important issues like knowledge of and access to feminizing hormones and silicone injections, and regulation of commercial sex activities. Although the importance of these alternate leaders was questioned by some traditional community organizers, their existence reflects organically developed, community-based systems that provide access to resources for issues important to TW in Peru, and their central social role needs to be acknowledged and understood.

Previous research has highlighted collective resilience and alternate approaches to accessing services as important responses to the widespread discrimination and harassment TW experience in Peruvian institutional environments (47, 48). Our findings extend this observation to illustrate the importance of alternate, community-based systems for accessing body modification resources and for organizing commercial sexual activities. Although medically problematic, the provision of feminizing hormones and injectable silicone by designated community representatives indicates the organic creation of alternative healthcare systems by TW capable of addressing their needs in a culturally sensitive manner. Similarly, the introduction of young and migrant TW to local commercial sex venues by older TW *mamis* demonstrates unique social network structures designed to regulate community

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membership, organize against discrimination and harassment, and establish and maintain group standards of behavior. This finding converges with prior research from the U.S. highlighting the role of trans mothers in TW social network structures and in sex work initiation and regulation (57). In terms of HIV prevention, these community leadership systems provide potential models for how to introduce, disseminate, and maintain (outside of traditional public health frameworks) prevention tools that address the specific social, cultural, and clinical concerns of TW. Models to guide implementation of these concepts (which are currently under assessment in Peru) include community-based centers to provide HIV prevention and treatment services in conjunction with exogenous hormone therapy and other gender-affirming healthcare services for transgender persons (31, 58).

A striking aspect of our findings was the importance of close (usually cisgender female) family members as sources of support and confidantes for private information. Despite the fact that many trans women in our sample experienced rejection and ostracization from their families, many also cited a mother, sister, or cousin as their most important source of social support. Through regular telephone conversations or in-person visits, TW in our sample described relying on cisgender female family members as important confidantes, as someone they would turn to if they needed to tell a secret or to reveal private information about themselves. These people were considered more trustworthy than other TW and therefore more reliable keepers of secret information. At the same time, topics of conversation with family members almost invariably avoided issues of transgender identity, sex work, or HIV risk. This discordance presents an important contradiction and a key problem for HIV prevention research, where TW are unable to discuss some of the most important issues in their lives, namely gender, sexuality, and sexual partnerships, with the only people they trust.

Social ties with other TW were complex as participants described TW as both the least trustworthy guardians of sensitive personal information related to HIV and STIs, and as the only people capable of understanding their daily lived experiences of the intersection of gender and sexuality. As a result, participants frequently differentiated between a small circle of close friends and a much larger sphere of casual acquaintances. While some participants reported bitter personal experiences that led them to trust no one, many described close-knit groups of two to four other TW with whom they shared secrets, living space, and economic resources. These friends were considered importance sources of social and economic support and assistance, and often provided advice on problems including relationships, health issues, and financial needs. In contrast, acquaintances in the larger TW community were typically maintained at arm’s length due to fear that personal information, secrets, and especially a diagnosis of HIV or another STI would be a source of gossip. Despite these fears, conversations with other TW were considered important opportunities to talk with those who shared similar experiences and understandings of the world. Differentiating between the need for social support and communication with a wide spectrum of TW and the perceived importance of limiting disclosures of personal information (especially information related to HIV and STIs) to a small group of trusted friends suggests a potential, narrow pathway forward in prevention research with TW. Future research is needed to understand how to best leverage these social network structures, and their function in the development and maintenance of community norms, for HIV prevention efforts.

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Nathan Granovetter's classic paper, "The Strength of Weak Ties," offers a framework for understanding the different kinds of social network ties among TW and how to apply them in the dissemination of new HIV prevention technologies (59, 60). In Granovetter's theory, strong ties occur between closely linked individuals in homophilous group patterns where members share similar traits. Weak ties, in contrast, are typically found between loosely connected acquaintances and often cross the social and cultural boundaries separating socially and/or economically distinct communities. In terms of behavior change, strong ties are central to development and maintenance of community norms while weak ties are critical for introducing new innovations into a group from external sources. For the promotion of new biomedical HIV prevention tools, weak ties can be seen as potential pathways for the dissemination of innovative technologies like PrEP, while strong ties may be most useful in supporting community acceptance and adherence of new technologies after they have been introduced.

In a practical illustration of Granovetter's theory, TW in our sample maintained a small circle of strong ties with trusted confidantes drawn from family or friendship circles, with whom they could give and receive mutual support (for health or well-being, relationship issues, and financial survival). Participants also described larger communities composed of weak ties with casual acquaintances or coworkers that introduced social and medical innovations to their micro-network (e.g., fashion trends and make-up techniques, feminization and body modification practices, commercial sex strategies). The successful introduction of new HIV prevention technologies like PrEP may require the combined use of both weak and strong social ties as an integrated social structure to support the introduction, uptake, and maintenance of new prevention innovations. Such efforts would have the benefit of replicating existing social structures, accessing the weak ties of the larger TW community to introduce and disseminate knowledge of biomedical prevention innovations, while relying on the strong ties between social network clusters to promote their uptake and to reinforce community norms of adherence. The design and development of future HIV prevention interventions will benefit from leveraging this integrated social structure among TW.

Our findings have several limitations that may affect generalizability to the wider population of TW. In any qualitative study, the experiences of individuals from a specific social and geographic context may not be applicable to other communities. As our study was constructed as formative research for a planned intervention, and designed to answer specific questions about network structure, influence, and interaction within selected TW communities in urban Peru, the findings are even more restricted— though still essential to efforts to understand and address the HIV prevention needs of TW. We only collected information from TW, not other members of their social networks, and did not extend our analysis beyond the boundaries of these selected groups. Although we continued to interview participants until satisfied we had reached a point of data saturation, our definition of saturation was shaped by the goals of our study, which were not designed to provide a comprehensive understanding of the complex social structures linking TW, their communities, and their families. While the interviewers in our study had extensive experience in working with HIV and STI prevention with TW in Peru, the fact that both interviewers were cisgender may have affected participants' willingness to discuss private issues of gender and sexuality. Similarly, participants' descriptions of their social network

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structures, communication systems, and patterns of behavioral influence are only perceptions and do not necessarily reflect the truth of how new information is received, taken up, and disseminated within their own or other TW communities in Lima. In extending these concepts to address new biomedical prevention technologies like PrEP—a prevention tool for which TW in Peru have limited knowledge and for which no comparable frame of reference exists in Peru's public health system—participants' perceptions cannot be considered fully reliable. Despite these concerns, our qualitative data on how Peruvian TW understand and negotiate the social structures and organizational patterns of their networks and communities provides essential information for the development and introduction of new, culturally-specific HIV prevention strategies for this key population.

Our qualitative analysis details the social network structures, leadership hierarchies, and patterns of influence within a TW community in Lima, Peru. Participants described complex social formations composed of a combination of frequent weak tie interactions with the larger transgender community and a small number of strong ties with close transgender friends and cisgender family members. Community leadership and influence were described as decentralized and varying between different contexts (political activism, body modification, commercial sex), but important to the organization of the community. These findings highlight the importance of social network interactions in the lives of TW in Peru and point towards potential pathways for the introduction and uptake of new HIV prevention technologies.

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References

1. Baral SD, Poteat T, Stromdahl S, Wirtz AL, Guadamuz TE, Beyrer C. Worldwide burden of HIV in transgender women: a systematic review and meta-analysis. The Lancet infectious diseases. 2013;13(3):214–22. [PubMed: 23260128]
2. Poteat T, Scheim A, Xavier J, Reisner S, Baral S. Global Epidemiology of HIV Infection and Related Syndemics Affecting Transgender People. Journal of acquired immune deficiency syndromes. 2016;72 Suppl 3:S210–9. [PubMed: 27429185]
3. Nemoto T, Operario D, Keatley J, Han L, Soma T. HIV risk behaviors among male-to-female transgender persons of color in San Francisco. American journal of public health. 2004;94(7):1193–9. [PubMed: 15226142]
4. Operario D, Nemoto T, Iwamoto M, Moore T. Risk for HIV and unprotected sexual behavior in male primary partners of transgender women. Arch Sex Behav. 2011;40(6):1255–61. [PubMed: 21604064]
5. Carlos JA, Bingham TA, Stueve A et al. The role of peer support on condom use among Black and Latino MSM in three urban areas. AIDS education and prevention : official publication of the International Society for AIDS Education. 2010;22(5):430–44. [PubMed: 20973663]
6. Levitt HM, Horne SG, Freeman-Coppadge D, Roberts T. HIV Prevention in Gay Family and House Networks: Fostering Self-Determination and Sexual Safety. AIDS and behavior. 2017;21(10):2973–86. [PubMed: 28451890]
7. Smith AM, Grierson J, Wain D, Pitts M, Pattison P. Associations between the sexual behaviour of men who have sex with men and the structure and composition of their social networks. Sexually transmitted infections. 2004;80(6):455–8. [PubMed: 15572613]

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8. Mehrotra ML, Rivet Amico K, McMahan V et al. The Role of Social Relationships in PrEP Uptake and Use Among Transgender Women and Men Who Have Sex with Men. AIDS and behavior. 2018.
9. Gomez GB, Borquez A, Caceres CF et al. The potential impact of pre-exposure prophylaxis for HIV prevention among men who have sex with men and transwomen in Lima, Peru: a mathematical modelling study. PLoS medicine. 2012;9(10):e1001323. [PubMed: 23055836]
10. Miller WM, Miller WC, Barrington C et al. The Where and How for Reaching Transgender Women and Men Who Have Sex with Men with HIV Prevention Services in Guatemala. AIDS and behavior. 2017;21(12):3279–86. [PubMed: 28008544]
11. Lee SW, Deiss RG, Segura ER et al. A cross-sectional study of low HIV testing frequency and high-risk behaviour among men who have sex with men and transgender women in Lima, Peru. BMC public health. 2015;15:408. [PubMed: 25896917]
12. Perez-Brumer AG, Konda KA, Salvatierra HJ et al. Prevalence of HIV, STIs, and risk behaviors in a cross-sectional community- and clinic-based sample of men who have sex with men (MSM) in Lima, Peru. PloS one. 2013;8(4):e59072. [PubMed: 23634201]
13. Silva-Santisteban A, Raymond HF, Salazar X et al. Understanding the HIV/AIDS epidemic in transgender women of Lima, Peru: results from a sero-epidemiologic study using respondent driven sampling. AIDS and behavior. 2012;16(4):872–81. [PubMed: 21983694]
14. Satcher MF, Segura ER, Silva-Santisteban A, Sanchez J, Lama JR, Clark JL. Partner-Level Factors Associated with Insertive and Receptive Condomless Anal Intercourse Among Transgender Women in Lima, Peru. AIDS and behavior. 2017;21(8):2439–51. [PubMed: 27639404]
15. Verre MC, Peinado J, Segura ER et al. Socialization patterns and their associations with unprotected anal intercourse, HIV, and syphilis among high-risk men who have sex with men and transgender women in Peru. AIDS and behavior. 2014;18(10):2030–9. [PubMed: 24788782]
16. Caceres CF, Segura E, Silva-Santisteban A, Giron JM, Petrera M. Non-conforming gender identification as determinant of lower HIV care access among people living with HIV in Peru: the HIV, economic flows, and globalization study. AIDS 2010; Vienna, Austria 2010.
17. Caceres CF, Stall R. Commentary: The human immunodeficiency virus/AIDS epidemic among men who have sex with men in Latin America and the Caribbean: it is time to bridge the gap. Int J Epidemiol. 2003;32(5):740–3. [PubMed: 14559742]
18. Clark J, Salvatierra J, Segura E et al. Moderno love: sexual role-based identities and HIV/STI prevention among men who have sex with men in Lima, Peru. AIDS and behavior. 2013;17(4): 1313–28. [PubMed: 22614747]
19. Sanchez J, Lama JR, Kusunoki L et al. HIV-1, sexually transmitted infections, and sexual behavior trends among men who have sex with men in Lima, Peru. Journal of acquired immune deficiency syndromes. 2007;44(5):578–85. [PubMed: 17279049]
20. Silva-Santisteban A, Eng S, de la Iglesia G, Falistocco C, Mazin R. HIV prevention among transgender women in Latin America: implementation, gaps and challenges. J Int AIDS Soc. 2016;19(3 Suppl 2):20799. [PubMed: 27431470]
21. Mayer KH, Grinsztejn B, El-Sadr WM. Transgender People and HIV Prevention: What We Know and What We Need to Know, a Call to Action. Journal of acquired immune deficiency syndromes. 2016;72 Suppl 3:S207–9. [PubMed: 27429184]
22. Reisner SL, Radix A, Deutsch MB. Integrated and Gender-Affirming Transgender Clinical Care and Research. Journal of acquired immune deficiency syndromes. 2016;72 Suppl 3:S235–42. [PubMed: 27429189]
23. Operario D, Nemoto T. HIV in transgender communities: syndemic dynamics and a need for multicomponent interventions. Journal of acquired immune deficiency syndromes. 2010;55 Suppl 2:S91–3. [PubMed: 21406995]
24. Salazar X, Nunez-Curto A, Villayzan J et al. How Peru introduced a plan for comprehensive HIV prevention and care for transwomen. J Int AIDS Soc. 2016;19(3 Suppl 2):20790. [PubMed: 27431469]
25. Deutsch MB, Glidden DV, Sevelius J et al. HIV pre-exposure prophylaxis in transgender women: a subgroup analysis of the iPrEx trial. Lancet HIV. 2015;2(12):e512–9. [PubMed: 26614965]

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26. Grant RM, Lama JR, Anderson PL et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. The New England journal of medicine. 2010;363(27):2587–99. [PubMed: 21091279]
27. Grinsztejn B, Hoagland B, Moreira RI et al. Retention, engagement, and adherence to pre-exposure prophylaxis for men who have sex with men and transgender women in PrEP Brasil: 48 week results of a demonstration study. Lancet HIV. 2018;5(3):e136–e45. [PubMed: 29467098]
28. Grant RM, Anderson PL, McMahan V et al. Uptake of pre-exposure prophylaxis, sexual practices, and HIV incidence in men and transgender women who have sex with men: a cohort study. The Lancet infectious diseases. 2014;14(9):820–9. [PubMed: 25065857]
29. Chow JY, Konda KA, Borquez A et al. Peru's HIV care continuum among men who have sex with men and transgender women: opportunities to optimize treatment and prevention. International journal of STD & AIDS. 2016;27(12):1039–48. [PubMed: 27099168]
30. Sevelius JM, Carrico A, Johnson MO. Antiretroviral therapy adherence among transgender women living with HIV. The Journal of the Association of Nurses in AIDS Care : JANAC. 2010;21(3): 256–64. [PubMed: 20347342]
31. Sevelius JM, Deutsch MB, Grant R. The future of PrEP among transgender women: the critical role of gender affirmation in research and clinical practices. J Int AIDS Soc. 2016;19(7(Suppl 6)): 21105. [PubMed: 27760683]
32. Hoagland B, De Boni RB, Moreira RI et al. Awareness and Willingness to Use Pre-exposure Prophylaxis (PrEP) Among Men Who Have Sex with Men and Transgender Women in Brazil. AIDS and behavior. 2017;21(5):1278–87. [PubMed: 27531461]
33. Bockting WO, Miner MH, Swinburne Romine RE, Hamilton A, Coleman E. Stigma, mental health, and resilience in an online sample of the US transgender population. American journal of public health. 2013;103(5):943–51. [PubMed: 23488522]
34. Nemoto T, Bodeker B, Iwamoto M. Social support, exposure to violence and transphobia, and correlates of depression among male-to-female transgender women with a history of sex work. American journal of public health. 2011;101(10):1980–8. [PubMed: 21493940]
35. Pflum SR, Testa RJ, Balsam KF, Goldblum PB, Bongar B. Social support, trans community connectedness, and mental health symptoms among transgender and gender nonconforming adults. Psychol Sex Orientat Gend Divers. 2015;2(3):281–6.
36. Pinto RM, Melendez RM, Spector AY. Male-to-Female Transgender Individuals Building Social Support and Capital From Within a Gender-Focused Network. J Gay Lesbian Soc Serv. 2008;20(3):203–20. [PubMed: 20418965]
37. Wong CF, Schrager SM, Holloway IW, Meyer IH, Kipke MD. Minority stress experiences and psychological well-being: the impact of support from and connection to social networks within the Los Angeles House and Ball communities. Prev Sci. 2014;15(1):44–55. [PubMed: 23412944]
38. Brennan J, Kuhns LM, Johnson AK et al. Syndemic theory and HIV-related risk among young transgender women: the role of multiple, co-occurring health problems and social marginalization. American journal of public health. 2012;102(9):1751–7. [PubMed: 22873480]
39. Herbst JH, Jacobs ED, Finlayson TJ et al. Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review. AIDS and behavior. 2008;12(1):1–17. [PubMed: 17694429]
40. Operario D, Nemoto T, Iwamoto M, Moore T. Unprotected sexual behavior and HIV risk in the context of primary partnerships for transgender women. AIDS and behavior. 2011;15(3):674–82. [PubMed: 20740376]
41. Factor RJ, Rothblum ED. A study of transgender adults and their non-transgender siblings on demographic characteristics, social support, and experiences of violence. J LGBT Health Res. 2007;3(3):11–30. [PubMed: 19042902]
42. Poteat T, Wirtz AL, Radix A et al. HIV risk and preventive interventions in transgender women sex workers. Lancet. 2015;385(9964):274–86. [PubMed: 25059941]
43. Graham LF, Crissman HP, Tocco J, Hughes LA, Snow RC, Padilla MB. Interpersonal relationships and social support in transitioning narratives of Black transgender women in Detroit. Int J Trans. 2014;15(2):100–14.

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44. Barrington C, Wejnert C, Guardado ME, Nieto AI, Bailey GP. Social network characteristics and HIV vulnerability among transgender persons in San Salvador: identifying opportunities for HIV prevention strategies. AIDS and behavior. 2012;16(1):214–24. [PubMed: 21538082]
45. Socias ME, Marshall BD, Aristegui I et al. Factors associated with healthcare avoidance among transgender women in Argentina. Int J Equity Health. 2014;13(1):81. [PubMed: 25261275]
46. Tucker C, Arandi CG, Bolanos JH, Paz-Bailey G, Barrington C. Understanding social and sexual networks of sexual minority men and transgender women in Guatemala city to improve HIV prevention efforts. J Health Care Poor Underserved. 2014;25(4):1698–717. [PubMed: 25418236]
47. Perez-Brumer AG, Reisner SL, McLean SA et al. Leveraging social capital: multilevel stigma, associated HIV vulnerabilities, and social resilience strategies among transgender women in Lima, Peru. J Int AIDS Soc. 2017;20(1):21462. [PubMed: 28362064]
48. Reisner SL, Perez-Brumer AG, McLean SA et al. Perceived Barriers and Facilitators to Integrating HIV Prevention and Treatment with Cross-Sex Hormone Therapy for Transgender Women in Lima, Peru. AIDS and behavior. 2017;21(12):3299–311. [PubMed: 28421354]
49. Krueger RA, Casey MA. Focus groups: a practical guide for applied research. Thousand Oaks, CA: SAGE Publications; 2000.
50. Maiorana A, Kegeles S, Salazar X, Konda K, Silva-Santisteban A, Caceres C. 'Proyecto Orgullo', an HIV prevention, empowerment and community mobilisation intervention for gay men and transgender women in Callao/Lima, Peru. Glob Public Health. 2016;11(7–8):1076–92. [PubMed: 27373578]
51. Pollock L, Silva-Santisteban A, Sevelius J, Salazar X. 'You should build yourself up as a whole product': Transgender female identity in Lima, Peru. Glob Public Health. 2016;11(7–8):981–93. [PubMed: 27080150]
52. Caceres CF, Konda KA, Salazar X et al. New populations at high risk of HIV/STIs in low-income, urban coastal Peru. AIDS and behavior. 2008;12(4):544–51. [PubMed: 18161019]
53. Clark JL, Perez-Brumer A, Salazar X. "Manejar la Situacion": Partner Notification, Partner Management, and Conceptual Frameworks for HIV/STI Control Among MSM in Peru. AIDS and behavior. 2015;19(12):2245–54. [PubMed: 25821149]
54. Salazar X, Caceres C, Maiorana A et al. [Influence of socio-cultural context on risk perception and negotiation of protection among poor homosexual males on the Peruvian coast]. Cad Saude Publica. 2006;22(10):2097–104. [PubMed: 16951881]
55. Palys T The SAGE Encyclopedia of Qualitative Research Methods (Given LM, Ed.): Purposive Sampling 2008.
56. Borkan J Immersion/Crystallization In: Crabtree BF, Miller WL, editors. Doing Qualitative Research. Thousand Oaks, CA: Sage Publications; 1999 p. 179–94.
57. Reisner SL, Mimiaga MJ, Bland S, Mayer KH, Perkovich B, Safren SA. HIV risk and social networks among male-to-female transgender sex workers in Boston, Massachusetts. The Journal of the Association of Nurses in AIDS Care : JANAC. 2009;20(5):373–86. [PubMed: 19732696]
58. Reisner SL, Bradford J, Hopwood R et al. Comprehensive transgender healthcare: the gender affirming clinical and public health model of Fenway Health. Journal of urban health : bulletin of the New York Academy of Medicine. 2015;92(3):584–92. [PubMed: 25779756]
59. Granovetter MS. The strength of weak ties. Am J Soc. 1973;78(6):1360–80.
60. Granovetter MS. The strength of weak ties: a network theory revisited. Soc Theory. 1983;1:201–33.

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Table I.

Pseudonyms and Demographic Characteristics of TW Social Network Interview Participants; Lima, Peru; 2015.

Pseudonym	Age	Gender Identity	Sexual Identity	Education Level	Occupation
Karina	21	Trans	Trans	HS Graduate	Sex Worker
Gracia[a]	22	Trans	Heterosexual	HS Graduate	Telecommunications Operator
Monica	23	Trans	Trans	HS Graduate	Sex Worker
Yolanda	23	Trans	Trans	HS Graduate	Sex Worker
Eva	24	Trans	Trans	HS Graduate	Student
Noemi	24	Trans	Heterosexual	HS Graduate	Student
Teresa	24	Trans	Trans	HS Graduate	Hairdresser
Alejandra	25	Trans	Trans	Elementary School	Cosmetologist
Josefa	26	Trans	Trans	HS Graduate	Sex Worker
Elena	27	Trans	Homosexual	HS Graduate	Sex Worker
Susana	29	Trans	Trans	HS Graduate	Peer Health Promoter
Serena	30	Trans	Trans	HS Graduate	Sex Worker
Adriana	32	Trans	Trans	Elementary School	Sex Worker
July[a]	33	Trans	Heterosexual	HS Graduate	Housekeeper
Katia[a]	35	Trans	Trans	HS Graduate	Sex Worker
Liliana	37	Trans	Trans	HS Graduate	Peer Health Promoter
Veronica	38	Trans	Trans	HS Graduate	Driver
Elisabeth[a]	40	Trans	Heterosexual	HS Graduate	Logistics Specialist
Estrella	40	Trans	Heterosexual	HS Graduate	Independent Contractor
Esmerelda[a]	42	Trans	Heterosexual	HS Graduate	Hairdresser

[a]Community Leader

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Table II.

Demographic Characteristics of TW Community Focus Group Participants; Lima, Peru; 2015.

Age	Gender Identity	Sexual Identity	Education Level	Occupation
19	Trans	Trans	HS Graduate	-
20	Trans	Trans	Elementary School	Student
21	Trans	Trans	HS Graduate	Marketing Specialist
21	Trans	Trans	HS Graduate	Cosmetologist
21	Trans	Trans	HS Graduate	Sex Worker
22	Trans	Heterosexual	HS Graduate	Telecommunications Operator
23	Trans	Trans	HS Graduate	Sex Worker
24	Trans	Trans	Elementary School	Sex Worker
25	Trans	Trans	HS Graduate	Sex Worker
25	Trans	Trans	HS Graduate	Sex Worker
26	Trans	Trans	HS Graduate	Hairdresser
27	Trans	Trans	HS Graduate	Sex Worker
27	Trans	Trans	HS Graduate	-
28	-	-	HS Graduate	Housekeeper
28	Trans	Trans	HS Graduate	Sex Worker
28	Trans	Trans	HS Graduate	Journalist
29	-	Trans	HS Graduate	Sex Worker
30	Trans	Trans	HS Graduate	Musician
30	Trans	Trans	Elementary School	Sex Worker
30	Trans	Trans	Elementary School	Hairdresser
31	Trans	Trans	Elementary School	Student
33	Trans	Trans	No Formal Education	Sex Worker
33	Trans	Heterosexual	HS Graduate	Housekeeper
35	Trans	Trans	HS Graduate	Sex Worker
35	Male	Bisexual	HS Graduate	Photographer
35	Trans	Trans	HS Graduate	Sex Worker
37	Trans	Trans	HS Graduate	Sex Worker
37	Trans	Bisexual	Elementary School	Independent Contractor
40	Trans	Trans	Elementary School	Hairdresser
40	Trans	Trans	HS Graduate	Housekeeper
42	Trans	Heterosexual	HS Graduate	Hairdresser
-	Trans	Heterosexual	HS Graduate	Housekeeper