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The authors wish to correct an error in the fifth author's name. The correct name is Irma Anintya Tasya.

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A strengths-based analysis of social influences that enhance HIV testing among female sex workers in urban Indonesia

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Abstract. ***Background*:** HIV prevalence among female sex workers in Indonesia remains high and large proportions of female sex workers have never been tested for HIV. International research highlights the importance of community-led strategies to increase HIV testing in this population. Little qualitative research has been conducted to address these issues in Indonesia or other Asia-Pacific countries. This paper documents social influences that enhance HIV testing among female sex workers in urban Indonesia. ***Methods*:** This was an interpretive qualitative study in Yogyakarta, Denpasar and Bandung. In total, 57 female sex workers participated in 11 focus group discussions, and four participated in individual semi-structured interviews. Deductive and inductive thematic analysis techniques were used to identify narratives of strengths pertaining to uptake of HIV testing. ***Results*:** Participants described supportive relationships with peers, community-based organisations and 'bosses'. Participants reported trusted networks with peers within which to share information about HIV testing and receive emotional support. Relationships with community outreach workers facilitated HIV testing through reminders, accompanied visits, and emotional/informational support. Community-based organisations worked with health services to facilitate mobile, community-based testing to overcome employment- and family-related constraints that inhibited women's clinic attendance. 'Bosses' employed a variety of practices to encourage HIV testing among their workers. ***Conclusions*:** Relationships, practices and action in community- and workplace-based settings outside formal health service spaces enhanced HIV testing among female sex workers. Community- or workplace-based HIV testing with outreach support from health services, peer-led HIV testing within existing social and work-based networks, and working with bosses to implement HIV prevention strategies can address low HIV testing rates in this key population.

Keywords: HIV, HIV care, HIV testing, Indonesia, qualitative research, sex workers, HIV care cascade, community, key populations, strengths-based research.

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Introduction

The Indonesian national HIV policy[1] identifies female sex workers as a 'key population', a term used to describe groups most at risk of HIV and whose engagement is key to effective HIV responses.[2] This designation is due to HIV prevalence that is much higher than in the general population,[3] and biological risks combined with interpersonal and structural factors associated with their profession that inhibit prevention and engagement in HIV care services.[4–6] HIV prevalence in the general population in Indonesia is estimated at 0.3%.[3] In contrast, maximum HIV prevalence estimates in 2010 ranged from 7% for 'indirect' sex workers (whose primary employment is in entertainment venues such as massage parlours and karaoke bars, and for whom sex work provides supplementary income) to 20% for 'direct' female sex workers (who identify as sex workers and are street-based or work from brothels).[7]

Consistent with global guidelines,[2,8,9] the Indonesian HIV test and treat policy[1] is assessed in the context of the HIV care cascade model. This model focuses on the implementation and monitoring of the national HIV response around the stepwise processes of testing, diagnosis, treatment initiation, and ongoing engagement in HIV care to ensure treatment adherence and viral suppression.[10,11] The Indonesian HIV policy is aligned with the UNAIDS 90–90–90 targets specifying that, by 2020, 90% of HIV-positive people will be aware of their status; 90% of those diagnosed will receive sustained antiretroviral treatment (ART); and 90% of those on ART will achieve viral suppression (undetectable HIV viral load, whereby HIV cannot be transmitted to others).[8] HIV testing is the first pillar of these targets and is central to a test and treat strategy as it provides entry into the HIV care cascade,[12,13] yet many Indonesian female sex workers have never been tested for HIV.[3] There are no national estimates for HIV testing coverage among female sex workers in Indonesia. Available data from Integrated Behavioural Biological Surveys (IBBS) conducted between 2007 and 2013 indicated that 53–66% of direct female sex workers and 31–39% of indirect female sex workers had ever been tested for HIV.[3] An IBBS conducted in Bandung during 2018–2019 found that only 15% of adolescent female sex workers had ever had an HIV test.[14]

Development of effective strategies to engage female sex workers in HIV testing requires exploratory qualitative research, conducted in partnership with female sex workers, to elicit data that informs an in-depth understanding of their lived experiences of accessing HIV testing. However, there is a lack of such evidence in Indonesia,[15] and limited data from other low- and middle-income countries (LMICs) in the Asia–Pacific region. Indonesian research related to this population has focussed on HIV awareness and transmission risks associated with lack of condom use[16] and other vulnerabilities associated with their profession.[17–19] Research in other Asia–Pacific countries has identified the owners of businesses related to sex work and pimps,[20–22] sex worker peer networks,[20–23] community-based organisations[24] and health professionals[21,24] as influencing HIV testing uptake. The research has also uncovered wider societal discrimination associated with HIV positivity and employment in sex work.[20,22,24]

Research that documents only barriers to engagement in HIV care misses important opportunities to learn from what female sex workers – and other people within their social, community and work networks – already do to enhance their health.[25] A strengths-based analysis can guide such learning opportunities in qualitative research due to a specific focus on individual and community actions that enhance women's wellbeing and improve health outcomes.[25,26] A 'social public health' approach[27,28] can refine strengths-based analyses because it demands focus on the social dimensions of biomedically-centred programs. By paying specific attention to social relations within affected communities, we can understand how individual and collective practices and actions evolve to enhance uptake of a program's prevention or treatment strategies.

Internationally, there is much evidence for community-led, community-centred HIV responses with and by female sex workers in LMICs that improve HIV awareness, reduce risk of HIV transmission, tackle stigma and discrimination and enhance the advocacy power of sex workers.[6,29–34] However, to date, there is little evidence in Indonesia or elsewhere in the Asia–Pacific region documenting what is happening within female sex workers' social networks to enhance engagement in HIV testing. Drawing on strengths-based and social public health frameworks, and to contribute to this knowledge gap, we analysed qualitative data to identify social relations, and the individual and collective actions and practices that arise from these, in peer, community and workplace settings that enhance female sex workers' engagement in HIV testing.

Methods

This paper focuses on qualitative data collected from 61 female sex workers during 2015 and 2016 in Bandung, Denpasar and Yogyakarta. This qualitative study was part of a larger implementation research project designed to evaluate strategies to improve the HIV care cascade among female sex workers, people who inject drugs, transgender women and men who have sex with men in Indonesia.[35–39]

Women were eligible to participate in the study if they were currently engaged in sex work, aged ≥16 years and able to provide informed consent. Participants were sampled purposively[40] to ensure diverse experiences with engagement in HIV testing, treatment and care services along the HIV care cascade. Recruitment was undertaken with support from female sex worker and/or HIV-focussed community-based organisations (CBOs) in each study site. Recruitment strategies included: via CBO workers sharing study information and inviting women to participate during outreach work; snowball sampling strategies[40] to reach female sex workers not engaged in CBO networks; and dissemination of study information via social media including 'WhatsApp' message service (in Bandung and Yogyakarta). Participants were reimbursed (IDR 100000/ AUD 10) to cover transport and other costs incurred in participation.

Data were collected during 11 focus group discussions involving 57 women and an additional four individual semi-structured interviews, which were used only for women unavailable or unwilling to participate in focus groups. Recruitment strategies ensured that each focus group involved participants who were grouped according to similar experiences with HIV testing and treatment.

Semi-structured discussion guides were used to explore participants' views and experiences of accessing HIV testing and treatment, with particular attention to personal, interpersonal, institutional (CBOs, health services) and societal influences[41] on women's experiences accessing HIV services. Discussion guides were developed in English during a research preparation workshop led by SB and then translated into Indonesian by bilingual team members (EL, IAT, ER).

Group discussions and interviews took place in audio-private settings and lasted for 60–120 min. They were conducted primarily in Indonesian with occasional use of local languages (Javanese, Sundanese, Balinese) by experienced bilingual researchers (EL, IAT, ER). Two researchers were present during each group discussion – one facilitated the discussions and another took notes.

Group discussions and interviews were audiotaped and professionally transcribed verbatim in Indonesian and translated into English for analysis. Data were uploaded into NVivo 11 (QSR International) and coded thematically using deductive and inductive analysis techniques[40] by KW in consultation with SB, EM and EL. Deductive techniques were used to identify interpersonal- and institutional-level influences[41] on HIV testing. Inductive techniques were used to identify narratives of strengths pertaining to uptake of HIV testing within each theme.

Ethical approval for this study was provided by the Universitas Udayana Ethics Committee [411/UN.14.2/LitBang/2015] and the UNSW Sydney Human Research Ethics Committee [HC15301]. Pseudonyms are used to protect the identity of participants.

Results

Sixty-one female sex workers – the majority of whom worked as direct sex workers living in brothel complexes – resident in Bandung,[21] Denpasar[12] and Yogyakarta[25] participated in this study. Of these, 27 did not disclose their HIV status, 16 reported that they were HIV positive but not currently receiving antiretroviral treatment, and 18 reported they had HIV and were receiving treatment.

Practices in peer networks

Women reported the supportive influence of relationships within work-based social networks, particularly with other HIV-positive women. Development of trusted networks at work created safe spaces to share information and emotional support. This was deemed important in each city due to wider societal prejudice associated with HIV status and employment-related identities and, for those with HIV, the risks associated with exposing their status to HIV-negative peers at work.

Support practices within these trusted networks were well documented. Novi (Denpasar, HIV+, not on ART) said, '*we keep each others' secrets* [and] *we look out for each other*'. In each city, women described how '*friends* [at work] *encourage others to take the test*' (Retno, Yogyakarta, HIV positive, not on ART) and monitor colleagues for signs of sickness and offer advice:

> '*How did it start? What made you come here and take the HIV test? It felt like I was dying. I couldn't do anything. I was so thin and wrinkled, my friends said I might have had AIDS, or something like that. That's what they said… so I finally came here on my own*.' (Elvina, Denpasar, HIV positive, on ART)

The challenge of HIV communication with people outside trusted networks was illustrated by a woman who was an indirect sex worker in a karaoke bar. She explained that encouragement to attend HIV testing was not always accepted or acted upon and caused conflict between colleagues:

> '*I told them* [to test] *but I am the one who got scolded. They respond,* '*I never do something like that*' *… If we suggest to them,* '*do you want to do* [HIV testing]*?*' *Sort of what* [CBO worker] *always tells us,* '*the first test is free, you can have any test for free, it's OK if you haven't done it in the past*'. *But they will directly say,* '*we don't do that, we are clean, we only just drink alcohol*'. *Most said that* […] *We have to force them, Ma'am. Not really forcing them, but more like approaching them in a persuasive way*.' (Euis, Bandung, HIV status undisclosed)

Community sector relations and action

Interactions with CBOs and relationships with CBO outreach workers formed essential support networks. When asked about HIV information sources, Ratih (Bandung, HIV status undisclosed) replied, '*we only know from* [outreach worker] *and* [CBO]*, that's it*'. For some women, the connection forged between CBO outreach workers and HIV testing services was their sole point of access to HIV testing:

> '*How often* [do HIV testing services come to the workplace]*? … Once every three months routinely … For testing, do you know any other place? We don't know. Only* [name of CBO]*? Yes, only* [outreach worker] *and* [CBO].' (Ijah, Bandung, HIV status undisclosed)

Supportive relationships with community outreach workers – typically former or current sex workers working for CBOs – enabled women to engage with health services for HIV testing. These relationships were based on trust, rapport and shared identity, which enabled outreach workers to share information and remind women to go for HIV testing. Accompanied clinic visits with support from outreach workers were reported by women in Bandung and Yogyakarta as an important mechanism for enabling women to have an HIV test for the first time.

CBOs liaised and built relationships with *puskesmas* (government primary health services) to enhance access to HIV testing in *puskesmas* as well as through the provision of mobile HIV testing at CBOs and in the workplace.

> '*So puskesmas provides services. Any regular services at* [CBO]*? Yes . . . once a month for STI and once every three months for HIV . . .* [CBO] *comes to my location . . . Is it a fixed schedule? . . .* [HIV testing happens on] *the fifth of every month, or we'd receive notice several days ahead* [from outreach worker]*, and then every 10th* [the test is held here] *at where we work . . . we are well informed but it's up to you whether you show up or not*.' (Rani, Yogyakarta, HIV status undisclosed)

Outreach workers shared information about group-based HIV testing sessions with female sex workers. This occurred via peer leaders who shared information though their workplace networks or outreach on an individual basis. Women explained that such mechanisms led to good awareness of HIV testing and regular delivery of, attendance at and participation in such testing sessions.

> '*At my place, we get an invitation* [to attend HIV testing]. *We'd get a piece of paper like this every time, it says the date and place. The invitation is made by* [male outreach worker] *and* [female outreach worker] *and I'd distribute it*.' (Ratna, Yogyakarta, HIV status undisclosed)

Supportive 'bosses'

The term 'boss' – as well as 'mamih' (female bosses) – referred to the pimp (for direct sex workers) or the person who runs karaoke bars or nightclubs (for indirect sex workers). Some women described bosses who were supportive of HIV testing, working with CBOs to ensure that women knew about testing opportunities.

> '[The boss makes sure that] *everyone would gather* [for HIV testing]. [Workers who live elsewhere] *are informed the night before when they're working if there's a gathering* [for HIV testing] *at a certain date*.' (Ratna, Yogyakarta, HIV status undisclosed)

> '*We receive a notice from* [the boss]. *They tell us tomorrow at 11am the doctor will be here* [workplace]. *That's the earliest, at 11. From 11, not all at once* [will be examined]*, Ma'am, because it is one by one, usually it finishes around 2pm or 3pm*.' (Tita, Bandung, HIV status undisclosed)

Several women described instances where the boss would make contact with outreach workers when women needed HIV and STI checks, but a testing session had not been scheduled:

> '*What would happen if* [name of outreach worker] *could not come here anymore* [for HIV/STI checks]*? We should talk to* '*Mamih*' *about that. It has been that way for a long time. It is* '*Mamih*' *who would take care of that? Does that occur in all places? All places. So, you should just tell* '*Mamih*' *regarding the* [HIV/STI] *check? Yes*.' (Pipit, Bandung, HIV status undisclosed)

Some women's narratives pointed to bosses who adopted various collaboration practices with CBOs to enable women to attend HIV testing; however, there were also narratives indicating mandatory testing.

> '*We had 4 people come* [for HIV testing]. [Others] *were encouraged by the boss and owner of* [CBO]. *The check-up must be routine. The boss took them there just now* [. . .] *they have to go here. Yesterday he took them. They have to be here* [for HIV testing]. *If you want to work, you have to get checked*.' (Cantika, Denpasar, HIV positive, not on ART)

> '*My pimp gets very angry if anyone misses her VCT* [voluntary counselling and testing for HIV]. *Anyone who's positive, they get sent to* [hospital] *for further check-up free of charge. That's the good thing about my leader. If anyone misses the VCT, my pimp will look for the person, visit their home. It's mandatory at my place. With* [another pimp]*, if her workers miss a test, she gets drunk and then looks for them at their place. It's chaos in* [suburb] *if someone skips a test*.' (Citra, Yogyakarta, HIV status undisclosed)

Discussion

To our knowledge, this is one of the first qualitative studies investigating HIV testing practices among female sex workers in Indonesia. Consistent with global HIV guidelines that emphasise community involvement in national HIV responses,[42,43] our findings show that relations and practices involving female sex workers, community outreach workers, health workers and bosses enabled HIV testing among female sex workers in three urban settings in Indonesia. Our findings complement recent qualitative research around engagement with HIV care for testing and/or treatment among other key populations in Indonesia[35–38] which also illustrate how community mechanisms enhance engagement in HIV care. As such, our findings provide insight into the improvement of, and community participation and leadership in, HIV responses in Indonesia and other LMICs in the region.

Drawing on a 'social public health'[27,28] approach, our 'strengths-based'[25,26] analysis identified particular relationships, practices and actions, with and by female sex workers and others in their community and work-based networks, which enhanced their engagement in HIV testing. For instance, relationships between peers played a key role in facilitating HIV testing among female sex workers in our study, similar to findings from Vietnam[20] and China.[21,23] In our study, specific peer practices that enhanced engagement with HIV testing included encouragement to test and monitoring of each other's health. The safety and trustworthiness of such community networks were deemed essential in contexts where female sex workers experienced discrimination associated with their HIV status and employment.[3,15]

Action in community networks was essential for improved engagement in HIV testing. Actions were facilitated by community outreach workers who were often former sex workers working for CBOs, and centred around relationships

of trust between female sex workers and outreach workers. Within these relationships, specific practices increased participation in HIV testing. These practices included sharing health information and information about group-based testing opportunities; accompanied visits to organised HIV testing sessions; and checking in with women about their health. CBOs worked closely with health services to deliver mobile testing in work and community locations convenient for sex workers, as well as in *puskesmas*. Our findings complement those from studies in other key populations in Indonesia,[35,36] which took place in parallel to this study, and are consistent with research involving female sex workers in south India.[24] Our findings also highlight the importance of implementing innovative testing services outside clinics – in work places, using social network-based approaches[9] – at times and locations that fit with women's work and family commitments.

The relationship between female sex workers and their 'bosses' was also integral to effective engagement in HIV testing in this study. In addition to collaborating with CBOs and health services to enable work-based testing, bosses also facilitated participation in HIV testing in other settings (such as *puskesmas*) during working hours, provided regular reminders and encouragement to test, and made contact with outreach workers outside scheduled testing sessions. Such practices illustrate how bosses can create 'enabling environments'[44] at work that are supportive of women's health. However, it is important to recognise the potential for social harm associated with power imbalance between bosses and women. The extent to which bosses encouraged or persuaded as opposed to forced testing among female sex workers, and the range of consequences that occurred if women chose to ignore this, was unclear. Obligatory testing in the workplace, or use of power to persuade or force women to participate in HIV testing, is in violation of international HIV testing guidelines opposing mandatory or coerced testing.[6,9]

Study limitations

This was a relatively small, qualitative study that took place in three large cities. Efforts were made to engage female sex workers from diverse backgrounds through purposive snowball sampling techniques. Our study would have been improved if we had systematically documented women's self-identification as direct or indirect sex worker to better understand women's different experiences associated with where and how they worked. Recruitment was conducted through outreach workers and included women who were largely engaged in CBO networks or whose workplace was engaged with CBO networks. Our study findings may therefore present a more positive set of experiences due to women's involvement in these networks. The study would have benefitted from an enhanced recruitment strategy that tried to recruit women from beyond CBO networks. To improve understanding of the issues explored in this paper, future research would benefit from exploring experiences of female sex workers located in HIV prevalence settings in urban locations outside Java and Bali and non-urban settings. A clearer focus on distinct experiences of direct versus indirect sex workers would also be beneficial, in addition to research with diverse bosses to understand their perspectives on female sex workers' engagement with HIV testing, treatment and care.

Implications for policy and practice

Despite these limitations, this research highlights the importance of collective and individual actions taken by sex workers, employers, CBOs and service providers to support engagement in HIV testing among Indonesian female sex workers. Participatory engagement in co-design, leadership and implementation of community-based research and delivery of health services are highlighted as key strategies in international responses to HIV.[42] Echoing these strategies, several areas for action to improve HIV testing initiatives among this group can be identified.

Our findings show strong support for CBO and health service collaboration in community- or workplace-based HIV testing for female sex workers, as documented is other LMICs.[45,46] Outreach work from health service settings can create safe, comfortable interactions for testing and education. Such spaces are convenient, fit with the social and structural constraints of women's employment, and enable sex workers to build trust in health services.

Development of strategies to enable female sex workers to facilitate HIV testing with their peers, and formalise these facilitation roles, could be effective ways to capitalise on the trust and existing relationships in women's networks. Such strategies would be particularly beneficial for reaching newcomers to sex work.[17] Our findings support the latest World Health Organization's HIV testing guidelines that promote social network-based approaches in national HIV responses.[9]

Finally, our findings illustrate both supportive and concerning influences of the boss on HIV testing. The care for workers demonstrated by bosses in this study can be capitalised on when identifying solutions to increase HIV testing among female sex workers in these settings. If there is any indication that bosses are using any form of coercion, there is a role for CBOs and other legal support institutions to work with bosses to change these practices. There is also a role for CBOs to help female sex workers build on the strengths in their networks to take collective action against such approaches.[23,47]

Conclusions

Our findings illustrate social relations, practices and actions within female sex workers' existing social and work-based networks – including peers, bosses, CBOs and health services – that enhance HIV testing in urban Indonesian settings. To address low HIV testing rates in this key population, we highlight areas of action to enhance engagement in HIV testing activities. These include community- or workplace-based HIV testing with outreach support from health services, peer-led HIV testing within existing social and work-based networks, and working with bosses in HIV prevention strategies.

Conflicts of interest

S. Bell is an Associate Editor of *Sexual Health* but was blinded from the peer review process for this paper. The remaining authors declare that they have no conflicts of interest.

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