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A community empowerment approach to the HIV response among sex workers: effectiveness, challenges, and considerations for implementation and scale-up

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A community empowerment-based response to HIV is a process by which sex workers take collective ownership of programmes to achieve the most effective HIV outcomes and address social and structural barriers to their overall health and human rights. Community empowerment has increasingly gained recognition as a key approach for addressing HIV in sex workers, with its focus on addressing the broad context within which the heightened risk for infection takes places in these individuals. However, large-scale implementation of community empowerment-based approaches has been scarce. We undertook a comprehensive review of community empowerment approaches for addressing HIV in sex workers. Within this effort, we did a systematic review and meta-analysis of the effectiveness of community empowerment in sex workers in low-income and middle-income countries. We found that community empowerment-based approaches to addressing HIV among sex workers were significantly associated with reductions in HIV and other sexually transmitted infections, and with increases in consistent condom use with all clients. Despite the promise of a community-empowerment approach, we identified formidable structural barriers to implementation and scale-up at various levels. These barriers include regressive international discourses and funding constraints; national laws criminalising sex work; and intersecting social stigmas, discrimination, and violence. The evidence base for community empowerment in sex workers needs to be strengthened and diversified, including its role in aiding access to, and uptake of, combination interventions for HIV prevention. Furthermore, social and political change are needed regarding the recognition of sex work as work, both globally and locally, to encourage increased support for community empowerment responses to HIV.

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Introduction

Since the beginning of the HIV epidemic, sex workers have been at a substantially increased risk for HIV infection. The disproportionate burden of disease in these individuals has been further emphasised with epidemiological data from several geographical settings and epidemic types.[1] Despite the global expansion of access to care and treatment, sex workers with HIV continue to face many barriers to access of services[2–10] and have poor treatment outcomes.[11,12] These findings show that sex workers are exposed to a unique set of factors impeding their health and necessitating increased attention within the global response to HIV.

The context of sex workers' heightened risk for HIV is characterised by various social and structural constraints.[13–15] Sex work is criminalised in some form in 116 countries.[16] In many settings, laws, policies, and local ordinances all serve to penalise and marginalise sex workers, and to exclude them from national HIV responses.[17] Sex workers experience violations of their human and labour rights. They are also frequently exposed to intersecting social stigmas, discrimination, and violence related to their occupation, gender, socioeconomic position, and HIV status.[1,15,18–21] Without addressing these powerful structural challenges, the HIV response in sex workers is likely to be ineffective and unsustainable.

Key messages

- A community empowerment-based HIV response is a process by which sex workers take collective ownership of programmes and services to achieve the most effective HIV responses and address social and structural barriers to their health and human rights.
- Community empowerment-based HIV prevention interventions in sex workers are associated with significant reductions in HIV and STI outcomes and increases in consistent condom use with clients. However, evaluation designs have been weak and geographically restricted. Community empowerment approaches to combination HIV prevention in sex workers are rare and should be expanded and assessed.
- Despite the promise of community empowerment approaches to address HIV in sex workers, formidable structural barriers to implementation and scale-up exist at various levels. These barriers include regressive international discourses and funding constraints; national laws criminalising sex work; intersecting stigmas; and discrimination and violence such as that linked to occupation, gender, socioeconomic status, and HIV.
- Results underscore the need for social and political change regarding the manner in which sex work is understood and addressed, including the need to decriminalise sex work and recognise sex work as work. To help achieve these changes, support for networks and community organisations led by sex workers are needed both globally and locally.
- There is a need to continue to expand and strengthen the evidence base for community empowerment in sex workers, including study designs focused on better capturing and measurement of the process and the effect of empowerment efforts across diverse settings, and further investments in the generation of sex-worker-led, practice-based evidence.

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See Online for appendix

A community empowerment-based response to HIV is a process by which sex workers take collective ownership of programmes to achieve the most effective HIV outcomes and address social and structural barriers to their health and human rights. These efforts are unique in that they are driven by the needs and priorities of sex workers themselves, coming together as a community. Community empowerment in sex workers has been recognised as a UNAIDS Best Practice for more than a decade,[22] and continues to underpin key UN policy documents regarding HIV in sex workers.[21,23] Assessments done across various countries have shown community empowerment to be a promising approach to reduce HIV risk in sex workers.[24] Results of mathematical modelling suggest that community empowerment efforts can significantly reduce HIV incidence in both sex workers and the general adult population across diverse HIV epidemic scenarios, and that these interventions are cost effective.[1,25] Despite increasing encouraging evidence, government and donor investment in community empowerment-based approaches in sex workers has been low.[26,27]

We undertook a comprehensive review of the implementation, effectiveness, and barriers and facilitators of community empowerment-based HIV prevention in sex workers. Within this review, we undertook a systematic review and meta-analysis of the effectiveness of community empowerment in sex workers for key HIV-related outcomes. Additionally, we present four case studies emphasising the social and structural challenges faced by sex workers across settings and their collective responses to reduce their risk for HIV infection and promote their overall health and human rights.

Search strategy and selection criteria

Working collaboratively as researchers and members of the sex-worker community, we did a comprehensive search of the peer-reviewed and practice-based evidence of community empowerment-based responses to HIV in sex workers. For practice-based evidence, we searched online for, and solicited programme reports and presentations from, various organisations working on sex work and HIV prevention, including the Global Network of Sex Work Projects (NSWP) listserv. For peer-reviewed literature, we searched PubMed, PsycINFO, Sociological Abstracts, Embase, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL) with a combination of terms for sex work, HIV, sexually transmitted infections (STIs), and community empowerment (including "social cohesion", "mobilisation", "solidarity", "collective", and "rights"). Additionally, we reviewed a WHO database of articles about sex work and HIV, screened reference lists of included articles, and contacted experts to identify additional articles. Searches focused on literature in all languages published between Jan 1, 2003, and Feb 1, 2013. To examine the barriers and facilitators of community empowerment initiatives, we abstracted and compiled data obtained from both the peer-reviewed and practice-based literature, using a-priori and emergent categories at the global, state, and community level of analysis. We also synthesised literature about measurement and monitoring of a community empowerment.

To assess the evidence of effectiveness of community empowerment interventions, we updated a systematic review and meta-analysis of pre or post or multi-group assessments of community empowerment-based HIV prevention interventions in sex workers in low-income and middle-income countries. Key outcomes of interest included HIV infection, STI infection, and condom use with clients. Data were extracted in duplicate with standardised forms. We used random-effects models to meta-analyse data across studies and assessed heterogeneity with the I^2 statistic. We excluded duplicative data (data from the same participants reported in more than one article) from meta-analysis. The appendix provides further details of the methods used in the search strategy, systematic review, and meta-analysis.

We developed case studies for four sex-worker-led projects from Kenya, Burma, India, and Brazil. Authors involved in each of these programmes drew on project documents, conferred with community members, and considered on their experiences over time. In the case of Kenya (PM) and Burma (KTW), the case studies were developed by sex workers themselves, whereas the case studies from India (SRP) and Brazil (DK) are from the perspective of collaborating academic partners engaged in research in those settings. Two of these case studies describe in detail projects that were included in the systematic review and meta-analysis, in the case of India with the Avahan project, which represented 13 of 22 articles in the review, and the Encontros and Fio da Alma projects from Brazil, which represented two of 22 articles.

What is community empowerment?

Findings from our comprehensive review showed that community empowerment-based HIV responses differ from typical HIV prevention programming in several ways. First, community empowerment approaches do not merely consult sex workers, but rather are community-led, such that they are designed, implemented, and assessed by sex workers. Second, these approaches recognise sex work as work—ie, as a legitimate occupation or livelihood—and seek to promote and protect its legal status as such. Third, they do not aim to rehabilitate, rescue, or remove sex workers from their profession; instead, they are committed to ensuring the health and human rights of these individuals as workers and as human beings. Rather than classification of sex work as sexual violence, conflation of sex work with human trafficking, or framing of sex workers as victims or vectors of disease, a community empowerment response to HIV is based on sex workers' experiences, insights, and leadership.[21,28]

In practical terms, the process of community empowerment often begins with sex workers meeting in a safe space to share their experiences, prioritise shared needs, and problem solve to jointly address barriers to their health and wellbeing, including, but not limited to, their heightened risk for HIV. Community empowerment is a social movement in which sex workers come together as a community to develop internal cohesion, then mobilise their collective power and resources to articulate, and as necessary demand, their human rights and entitlements. In this process, sex-worker communities seek allies, including governmental and non-governmental groups, and challenge groups and individuals who inhibit progress to achieve social and policy change and expand access to quality HIV services. Formation of an organisation for sex-worker rights is often the outgrowth of a community empowerment process whose shape, speed, and focus varies by the sociopolitical, historical, and legal environment in which it takes place.

	Country	Population	Study design	Outcomes	Sample size	Sampling
Sonagachi Project						
Basu et al, 2004	India	Female sex workers	Group randomised trial	Condom use with all clients	N=200 (100 per study group)	Random selection of participants
Gangopadhyay et al, 2005	India	Female sex workers	Cross-sectional study	Gonorrhoea; chlamydia	N=342 (173 intervention, 169 control group)	Involved a mix of random and non-random selection of participants
Belgaum Integrated Rural Development Society (BIRDS)						
Halli et al, 2006	India	Female sex workers	Cross-sectional study	Condom use with all clients	N=1512	Random selection of participants
Frontiers Prevention Project (FPP)						
Gutierrez et al, 2010	India	Female sex workers	Serial cross-sectional study	Condom use with all clients	N=3442 (round 1), N=2147 (round 2)	Non-random selection of participants
Avahan						
Adhikary et al, 2012	India	Female sex workers	Serial cross-sectional study	HIV; high-titre syphilis; chlamydia; gonorrhoea; condom use with all clients, regular clients, and new clients	N=7828 (round 1), N=7806 (round 2)	Random selection of participants
Blanchard et al, 2013	India	Female sex workers	Cross-sectional study	Condom use with regular clients	N=1750	Random selection of participants
Blankenship et al, 2008	India	Female sex workers	Cross-sectional study	Condom use with all clients, regular clients, and new clients	N=812	Non-random selection of participants (respondent-driven sampling)
Boily et al, 2013	India	Female sex workers	Serial cross-sectional study	HIV; chlamydia; gonorrhoea	N=2284 (round 1), N=2378 (round 2), N=2359 (round 3)	Random selection of participants
Deering et al, 2011	India	Female sex workers	Cross-sectional study	Condom use with regular clients and new clients	N=775	Random selection of participants
Erausquin et al, 2012	India	Female sex workers	Serial cross-sectional study	Condom use with all clients	N=794 (round 1), N=669 (round 2), N=813 (round 3)	Random selection of participants
Guha et al, 2012	India	Female sex workers	Cross-sectional study	Condom use with all clients	N=9111	Random selection of participants
Mainkar et al, 2011	India	Female sex workers	Serial cross-sectional study	HIV; high-titre syphilis; chlamydia; gonorrhoea; condom use with all clients, regular clients, and new clients	N=2525 (round 1), N=2525 (round 2)	Random selection of participants
Rachakulla et al, 2011	India	Female sex workers	Serial cross-sectional study	HIV; condom use with all clients, regular clients, and new clients	N=3271 (round 1), N=3225 (round 2)	Random selection of participants
Ramakrishnan et al, 2010	India	Female sex workers	Cross-sectional study	Condom use with regular clients and new clients	N=9667	Random selection of participants
Ramesh et al, 2010	India	Female sex workers	Serial cross-sectional study	HIV; high-titre syphilis; chlamydia; gonorrhoea; condom use with all clients, regular clients, and new clients	N=2312 (round 1), N=2400 (round 2)	Random selection of participants (conventional cluster and time-location cluster sampling)
Reza-Paul et al, 2008	India	Female sex workers	Serial cross-sectional study	HIV; high-titre syphilis; chlamydia; gonorrhoea; condom use with all clients, regular clients, and new clients	N=429 (round 1), N=425 (round 2)	Random selection of participants (time-location cluster sampling)
Thilakavathi et al, 2011	India	Female sex workers	Serial cross-sectional study	HIV; high-titre syphilis; chlamydia; gonorrhoea; condom use with all clients, regular clients, and new clients	N=2032 (round 1), N=2006 (round 2)	Random selection of participants
Encontros						
Lippman et al, 2012	Brazil	Female, male, and transvestite sex workers	Prospective cohort study	Chlamydia; gonorrhoea; condom use with regular clients and new clients	N=420	Non-random selection of participants

(Table continues on next page)

	Country	Population	Study design	Outcomes	Sample size	Sampling
(Continued from previous page)						
Lippman et al, 2010	Brazil	Female, male, and transvestite sex workers	Prospective cohort study	Chlamydia; gonorrhoea	N=420	Non-random selection of participants
Fio da Alma						
Kerrigan et al, 2008	Brazil	Female sex workers	Serial cross-sectional study	Condom use with all clients	N=499 (round 1), N=537 (round 2)	Non-random selection of participants
Projeto Princesinha						
Benzaken et al, 2007	Brazil	Female sex workers	Serial cross-sectional study	Condom use with all clients	N=148 (round 1); N=139 (round 2)	Non-random selection of participants
Compromiso Colectivo						
Kerrigan et al, 2006	Dominican Republic	Female sex workers	Serial cross-sectional study	Chlamydia; gonorrhoea; condom use with new clients	Santo Domingo: N=210 (round 1), N=206 (round 2) Puerto Plata: N=200 (round 1), N=200 (round 2)	Random selection of participants

Table: **Description of the studies (N=22) included in the systematic review of community empowerment approaches to address HIV among sex workers**

Community empowerment in sex workers is thus an overall approach, rather than a set of specific intervention activities. Within the approach, various HIV prevention, treatment, and care and support strategies can be implemented. Specific intervention elements might include biomedical components (eg, counselling and testing for HIV and sexually transmitted infections [STIs], and linkages to care and treatment), behavioural components (eg, sex-worker-led outreach and community education, condom distribution), and structural components (eg, social cohesion and community mobilisation, access to justice, socioeconomic opportunities).[29]

Is community empowerment effective?

Systematic review

Our systematic review identified 5457 unique citations, of which 22 peer-reviewed articles met the inclusion criteria for having assessed the effectiveness of community empowerment-based interventions for HIV prevention in sex workers over the past 10 years, from Feb 1, 2003, to Jan 31, 2013 (table).[30–51] The number of included publications more than doubled since our previous review (n=10), which included articles published between Jan 1, 1990, and Oct 15, 2010, mostly because of recent publications from the Avahan project in India. The 22 articles included in our present systematic review represented 30 325 sex-worker study participants from eight projects across three countries: India (17 articles), Brazil (four articles), and the Dominican Republic (one article; table). 13 of the 22 articles were from the Avahan project in India. Although all projects included female sex workers, only one project from Brazil also included male and transgender sex workers.[33,40] Most studies included both establishment-based and non-establishment-based sex workers.

Most studies incorporated or intensified community empowerment within existing programmes. The existing programmes all included traditional HIV prevention activities, including community-led peer education, condom distribution, and the promotion of periodic STI screening. The additional effect of community empowerment was subsequently assessed, above and beyond these traditional HIV prevention approaches, either by measurement of changes in outcomes over time as a community empowerment approach was added or intensified, or by comparison of varying levels of exposure to empowerment activities. However, the included programmes did vary in the specific nature of their activities, and in the extent to which they fully operationalised the ideals and principles of community empowerment, including ownership and project design and management by groups led by sex workers.

One randomised controlled trial[34] done in West Bengal, India, had a high or uncertain risk of bias across all quality assessment items listed by the Cochrane Collaboration. With the exception of one longitudinal study from Brazil,[33,40] the remaining studies all used cross-sectional or serial cross-sectional designs. Because the evidence base indicates fairly weak study designs, our ability to draw causal inferences and firmly establish the effectiveness of community empowerment is restricted.

Meta-analysis

In our meta-analysis, community-empowerment-based responses to HIV in sex workers were consistently associated with significant reductions in HIV and STIs, and increases in condom use.

HIV infection was measured in five articles.[41,43,45,46,48] All articles were serial cross-sectional studies from the Avahan project in India, and all measured HIV prevalence, but not incidence. Findings from these studies showed a combined reduction in HIV prevalence in sex workers after the implementation of community empowerment

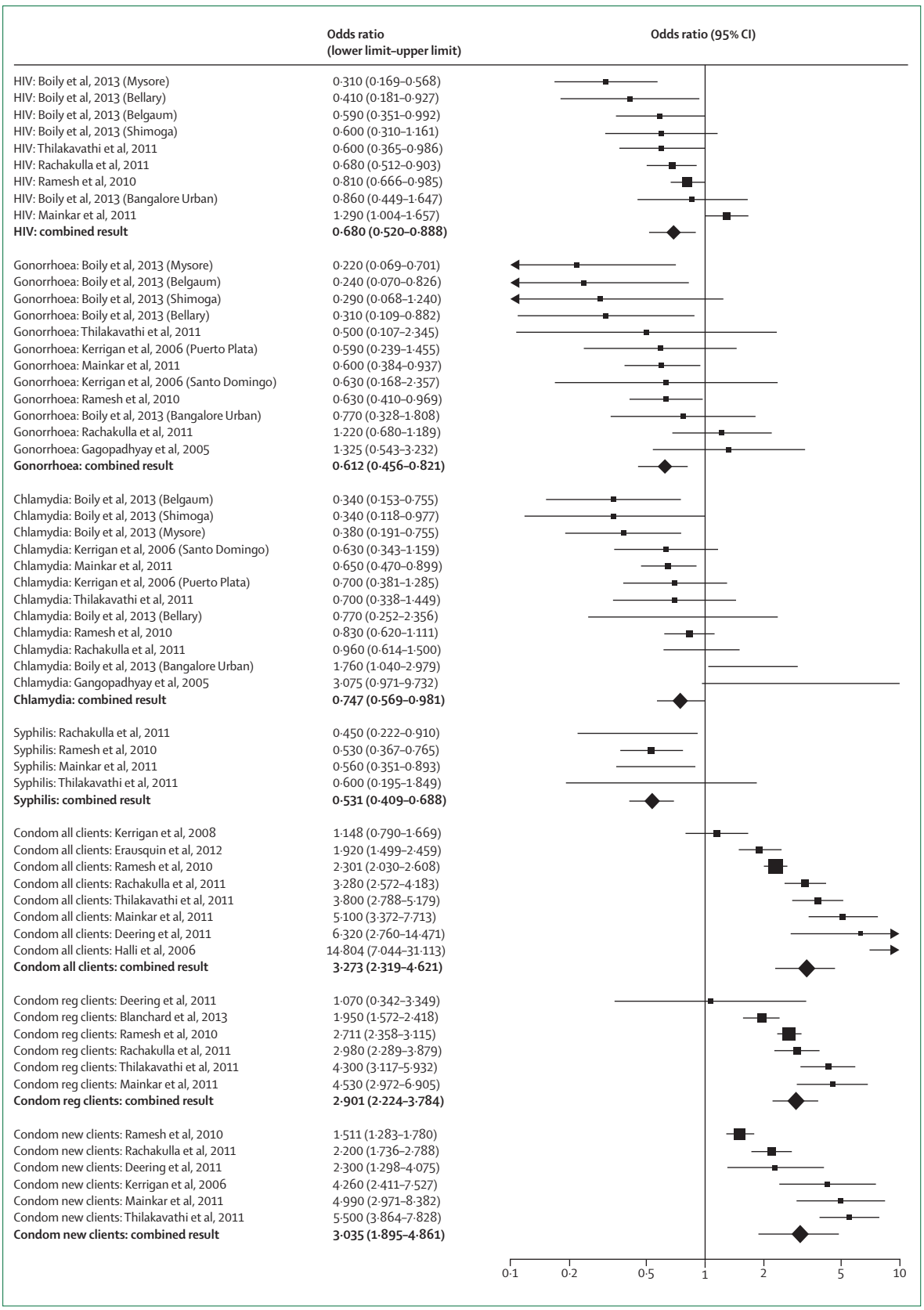

Figure 1: **Forest plot of the studies included in the meta-analysis of community empowerment approaches to address HIV among sex workers**

efforts (OR 0·680, 95% CI 0·520–0·888 [figure 1]; p=0·0047). Heterogeneity was high (I^2=73·897).

STI incidence was measured in one longitudinal study done in Brazil.[33,40] Although 55% of participants were lost to follow-up by study end, inverse probability weighting was used to minimise potential biases. The study showed a non-significant reduction in combined gonorrhoea and chlamydia prevalence from baseline to 12-month follow-up (crude odds ratio [OR] 0·46, 95% CI 0·2–1·3).[33] Eight additional cross-sectional or serial cross-sectional articles[36,38,41,43,45,46,48,52] were included in meta-analyses for STI infection. Combined results showed that community empowerment was associated with a significantly decreased odds of gonorrhoea (figure 1; seven studies; p=0·011), chlamydia (figure 1; seven studies; p=0·036), and high-titre syphilis (four studies; p<0·0001). Heterogeneity was high for meta-analyses of gonorrhoea (I^2=32·511) and chlamydia (I^2=61·045), but not for syphilis (I^2=0), which also showed the strongest effect (the odds of syphilis were reduced by almost half with a community empowerment approach).

Condom use was measured in the one included randomised trial.[34] This study, which was done in India, randomised two clusters: one to community empowerment and one to control. The regression coefficient β of 0·3447 (p=0·002) showed a significant improvement in condom use with clients over time in intervention participants compared with control participants. Condom use was also measured in the longitudinal study from Brazil.[33] This study showed significant increases in consistent condom use in the past 30 days with regular clients (OR 1·9, 95% CI 1·1–3·3), but not with new clients (1·6, 0·9–2·8) when condom use was already high. We included eight additional cross-sectional or serial cross-sectional articles[31,37,39,41,43,45–47] in meta-analyses for condom use. Combined results showed that community empowerment was associated with significantly heightened odds of consistent condom use with new clients (figure 1; six studies; p<0·0001), regular clients (figure 1; six studies; p<0·0001), and all clients (figure 1; eight studies; p<0·0001); heterogeneity was high for all condom use meta-analyses (I^2=91·767 *vs* I^2=80·480 *vs* I^2=90·353).

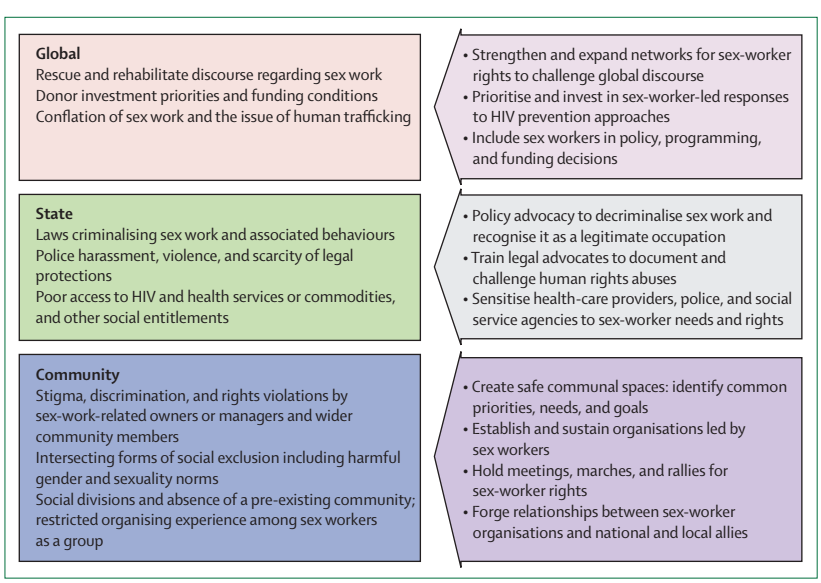

Figure 2: **Challenges to the implementation and scale-up of community empowerment, and sex-worker-led responses to structural barriers at the global, state, and community levels**

How is community empowerment measured?

To date, most efforts to measure community empowerment have focused on the specific intervention activities undertaken, whereas less focus has been placed on the measurement of community empowerment as a social process. For example, most articles in our systematic review measured intervention exposure by assessment of whether participants had been contacted by a peer educator; had received condoms or other educational materials; had visited drop-in centres or health clinics; or had participated in group workshops, meetings, or other activities. Similarly, programme monitoring indicators reported in the 22 articles in the systematic review generally focused on the coverage and quality of clinical and community-based HIV services offered to sex workers, rather than documentation of the community empowerment process. However, the Avahan project implemented a more comprehensive monitoring plan of its community mobilisation programmes, including those with sex workers. The Community Ownership and Preparedness Index (COPI) was designed to document the progress of community mobilisation and the transition of responsibility to participating community groups, including sex-worker organisations.[53,54] The parameters of the COPI include leadership, governance, decision making, resource mobilisation, networking, programme management, engagement with the state to secure rights and entitlements, and engagement with the wider society to reduce sex-work-related stigma.[54]

Some projects attempted to document the social process associated with community empowerment among sex workers with use of both individual indicators and aggregate measures. Of the 22 articles in our systematic review, two[32,35] used single-item indicators to capture the social process stimulated by the community empowerment intervention, including constructs such as "collective efficacy" or "collective action". Five[33,37–39,49] of the 22 studies used more theoretically complex aggregate measures to assess the dynamic process of community empowerment, from the formation of internal community cohesion within the sex-worker community to the social and political participation of sex workers as a group, and, as a result, their broader social inclusion in society, including their access to health, social, and economic resources. Additionally, some projects documented the progression of sex-worker collectivisation and participation in sex-worker-led organisations.[37,39] Finally,

in addition to development of collective resources and "power over" increased personal agency and "power within" have been included as important measures of the process of community empowerment.[49]

What are the barriers and facilitators to community empowerment?

Our comprehensive review identified 110 documents from both the peer-reviewed and practice-based evidence related to implementation of community-empowerment-based responses to HIV in sex workers across various settings. From this literature, we sought to identify the most salient barriers to implementation and scale-up at the global, state, and community levels (figure 2). Additionally, we sought to capture facilitating factors and innovative responses used by sex-worker programmes to overcome these challenges.

At the global level, international policies and funding mechanisms can help or hinder community empowerment. Policies that hinder the community empowerment process include the global raid-and-rescue discourse, in which non-sex workers characterise sex workers as passive victims needing rescue.[21,55,56] These programmes often deny sex workers' support in choosing their livelihoods and undermine the legitimacy of sex work as work. Additionally, this discourse often conflates consensual adult sex work with human trafficking. The US Government's anti-prostitution pledge also hindered community empowerment processes by stipulating that organisations receiving money from the US President's Emergency Plan for AIDs Relief should sign a pledge against prostitution. Reports suggested that the pledge harmed sex workers and promoted stigma and discrimination[57] while reducing the effectiveness of HIV prevention programmes and services for sex workers.[58] The pledge was ruled unconstitutional by the US Supreme Court in June, 2013. Although some international donors do advocate for community empowerment, they often still hold programmes accountable to management requirements that are difficult for members of or groups in the sex-worker community to maintain, thus restricting sex workers' actual authority and decision-making power in development, implementation, and assessment of programmes.[59]

Factors also exist that aid community empowerment at the global level. For example, the Global Network of Sex Work Projects (NSWP) unites 160 sex-worker groups from 60 countries and stimulates dialogue and debate related to international policies and funding practices that affect the health and human rights of sex workers. Building on the recommendations of the recent report from the Global Commission on HIV and the Law,[60] NSWP's consensus statement calls for the full decriminalisation of sex work to promote and protect the human rights of sex workers, including reducing their increased risk for HIV.[61] In just the past few years, several UN agencies and other international organisations have called for decriminalisation of sex work as an integral part of the HIV response for sex workers.[21,29,62–64]

At the national level, the state strongly influences the health and human rights of sex workers and their ability to implement community empowerment approaches. National laws criminalising sex work or activities related to sex work can impede sex workers' ability to organise and increase stigma, discrimination, and violence in sex workers.[16,65] Efforts to decriminalise sex work are active in many countries and some important successes have taken place in the area of national laws and policies related to sex work. For example in Brazil, the sex workers' rights movement worked to secure sex work as a recognised occupation and sex workers are now legally entitled to claim crucial labour rights, such as pensions.[66] Initiatives to involve the police in sensitivity trainings have also been successful.[67,68] For example in India, because of police violence, sex workers from Ashodaya Samithi organised trainings for local law enforcement, which culminated in police officers joining sex workers in solidarity at a rally to protest a law detrimental to sex workers.[67] The Avahan project created crisis intervention teams that began policing the police by having sex workers report and document police abuses, leading to decreased violence.[69] Furthermore, sex workers have turned policies and injustices that hinder empowerment into reasons for community mobilisation that aid empowerment.[70–72] For example, the murder of a transgender sex worker in Brazil led to a public demonstration to address sex-work-related violence, which was an important initial step in the development of group-level consciousness for further collective action to address health and human rights.[71]

At the community level, sex workers are frequently exposed to stigma, discrimination, and violence—often by law-enforcement officials, owners and managers, and sometimes by clients.[67,68,73–76] They are also victims of socioeconomic exclusion;[76,77] denial of health care;[68,76,78,79] stigmatisation and discrimination by friends, family, neighbours, and social and religious institutions;[71,74,80] and have difficulty accessing social entitlements.[56,78,79] For these reasons, many individuals who practise sex work do so in secret and are unwilling to be recognised as sex workers.[81–83] This stigma-fuelled denial of selling sex hampers community empowerment by the discouragement of some individuals from joining organisations that openly focus on sex workers. In places where sex work is illegal, sex workers might also avoid sex-work organisations for fear of police reprisal.[84]

For more on the **NSWP** see http://www.nswp.org

Sex workers are diverse.[85] They come from different socioeconomic, ethnic, and regional backgrounds. They are often mobile or undocumented migrants and they work in different venues and spaces, including brothels, bars, or on the street.[28,86,87] Furthermore, social stratification is an issue among sex workers, as is competition for clients[28,88] all of which can lead to

mistrust and disunity,[89] hampering community empowerment efforts. Identification of common interests is a necessary but insufficient part of building social cohesion and creating collective action.[86] The Sonagachi Project and the Sampada Gramin Mahila Sanstha/Veshya Anyay Mukti Parishad (SANGRAM/VAMP) initiative noted that community-led outreach and peer educators helped sex workers to identify shared experiences and needs, and aided community building.[28,90,91] In the Ashodaya Simithi project in Mysore, India, sex workers built cohesion when they openly began identifying as sex workers and mobilising around the idea that sex work is legitimate.[92] Many projects build infrastructure, often in the form of drop-in centres that give sex workers physical space allowing them to come together and form bonds.[39,88,93–95]

In addition to building of social cohesion among sex workers, forging of relationships with potential allies and partners is crucial, especially because the stigma, discrimination, and disempowering circumstances faced by sex workers are driven by outside groups.[81] Some initiatives have had great success working with powerful actors, such as brothel owners and managers, and influential local clubs and political groups,[96] whereas others have found it more difficult, noting that outside groups have little incentive to join initiatives aimed at empowerment of sex workers.[88] Promotion of social acceptance of sex workers by involvement of members of the larger community in sex-worker events, rallies, and other social mobilisation activities has also been linked to aiding community empowerment.[28]

For more on the **Bar Hostess Empowerment and Support Programme** see http://www.bhesp.org

Across these different levels, development of an enabling environment for sex workers is key to facilitation of community empowerment. Such development involves giving voice to individuals affected by unequal social conditions and fostering the ability to challenge such conditions.[97] Therefore, building of leadership and capacity among sex workers within community empowerment interventions is crucial. For example, the Sonagachi Project fostered capacity building by promoting a sense of equality between sex workers and project staff and adapting the project to serve the needs and priorities identified by sex workers themselves.[28] Ashodaya Samithi fostered leadership by allowing sex workers to make key decisions in the creation of a health centre to serve their needs.[98] Groups can also promote autonomy and leadership by networking with other sex-worker groups regionally, nationally, or internationally, and by linking with other movements, such as labour rights, women's rights, and human rights.[99] Although organisations led by non-sex workers, such as international non-governmental organisations (NGOs), can have important roles in community empowerment initiatives, particularly in the initial stages of community organising, some suggest their role should be supportive in nature, rather than directive, or else they too could inhibit the community empowerment process.[100] Together, this literature suggests that the community empowerment process should be envisioned, shaped, and led by sex workers themselves if it is to be effective and sustainable in reducing sex workers' risk for HIV and promoting and protecting their health and human rights.

Case studies

The four case studies presented below, from Kenya, Burma, India, and Brazil, describe key elements of the context, process, barriers and facilitators, and sustainability of community empowerment.

Kenya: "Now, some police have not bothered messing with the girls because they have their mother in Nairobi"

In bars outside Nairobi, Kenya, sex workers experienced persistent violence and HIV risk, yet the stigma surrounding HIV meant that sex workers rarely discussed HIV and were often ignorant of even the most basic facts about HIV transmission. The Bar Hostess Empowerment and Support Programme (BHESP) was founded in 2001, when a small group of bar hostesses and sex workers were organised and trained in HIV prevention and care. BHESP now has more than 3000 members with a network of 42 different local groups across four provinces in Kenya. Each of the local groups is independently formed and is unique in terms of location and client type.

BHESP activities include drop-in centres for health education and other HIV and STI services, community-led educators, care and support for sex workers with HIV, and opportunities for the mobilisation and capacity building of sex workers. Although BHESP's initial focus was HIV, the women considered violence, sometimes murder, by police, managers, and some bar customers and clients of sex workers as a bigger and more immediate issue; to them, HIV was less of an immediate threat on a daily basis. BHESP confronts these abuses by going directly to the police and to the courts, by advocating against police brutality in public, and through mass media. Sex workers have now been trained as paralegals to educate their peers about their rights. Women are often arrested for loitering, carrying condoms, or dressing as if they had an "immoral purpose" regarding intent to sell sex.

Before establishment of the BHESP, women would often bribe the police or plead guilty and pay a fine. Now, the BHESP paralegals advise women to plead innocence and to take the case to court. Between January and June, 2013, 105 cases of violence and arbitrary arrest of sex workers were reported to BHESP. With the help of lawyers, BHESP won all these cases, which eventually went before the court.

Additionally, BHESP advocates for decriminalisation of sex work at the local level, city by city. BHESP monitors the number of cases of abuse and arrests that are reported through their hotline, whether cases go to court, and whether arrests have stopped or decreased as

a result of BHESP's interventions. These active community empowerment interventions have resulted in decreases in police harassment of sex workers; police realise their actions are likely to result in an unnecessary confrontation with BHESP and possibly being taken to court.

Burma: "I came from the community, so I work for the community"

In 2004, some HIV programmes existed in Burma but none specifically for sex workers, despite high HIV prevalence in these individuals, including those who had worked in Thailand. The sex-worker community faced much stigma and dialogue about their health and rights was scarce. The Targeted Outreach Project (TOP) was started in Burma's capital city, Yangon, and has now been implemented in 18 cities, reaching more than 62 000 sex workers per year. In Yangon, TOP established drop-in centres where sex workers could access free health care, without the stigma they often encountered from other health-care providers. The care, support, and other services provided at the centres are a holistic package, not solely focused on HIV or STIs. Importantly, community educators are sex workers from the communities that they serve. After establishment of the early drop-in-centres, TOP became more sophisticated and developed an approach that was inclusive of sex workers, the neighbouring community, the health department, and local authorities, engaging all partners from the outset. TOP had to overcome local opposition in some neighbourhoods to the establishment of drop-in-centres. In understanding of the stigma attached to sex work, TOP put on theatrical performances depicting the lives of sex workers to win over the neighbours.

TOP provides the technical and financial support needed to open new centres, but insists that local sex workers take responsibility and control over their own centres through empowerment, advocacy, and emotional support. TOP monitors the performance of centres, and does so in a way that is easy and accessible to sex workers. For example, for the monitoring of condom use by sex workers with clients at last sex, TOP has instituted a simple system using a coupon box with three different colours of coupons from which to choose. Red signifies no condom use during last sex, green means a condom was used, and yellow represents non-penetrative sex during last sexual encounter. When sex workers attend for any centre services, they choose the appropriate coupon colour and place it in the box. Coupons are then counted at the end of the month to establish the proportion of individuals using condoms. TOP continues to work towards their main goals: freedom from the stigma and violence sex workers consistently face, and affordable and accessible health services. The TOP programme recognises that sex workers will have different levels of interest in engaging in the programmes. However, they contend that all sex workers should be given the opportunity to actively participate in all levels of decision making.

India: from "for the community", to "with the community", to "by the community"

In 2004, researchers from the University of Manitoba did an assessment in sex workers in Karnataka, India, which emphasised the need for safe space, violence reduction, and basic health services. Credibility within the community was gained by development of a 12-week plan to rollout services. This initial phase involved a "for the community" approach driven by external agents. Soon, it was clear that the project needed to work "with the community", involving sex workers in all aspects of the project, including decision making. This phase saw a high degree of community mobilisation in sex workers, including them assembling for public events and celebrations. Within 1 year of the assessment, an organisation of sex workers, Ashodaya Samithi (Dawn of Hope), was born with a democratically elected executive board. In the move from "us" researchers as external agents doing something for "them", to researchers and the community working together, it became evident over time that the organisation of sex workers was ready to move to the next level of making changes by themselves or "by the community". In its second year, Ashodaya was able to take on most of the core elements of the project. Within 3 years, more than 4000 sex workers had become members, monitoring showed a saturation in intervention coverage, and Integrated Biological and Behaviour Assessments (IBBA) showed progress in HIV outcomes, such as increased condom use and decreased STIs. The university group was not only playing a facilitator role but was bringing science to sex workers and deconstructing it in such a way that they were able to use it. Capture-recapture size estimation allowed the community to see that they had strength in numbers and that together they could form a constituency. The IBBA helped them understand that HIV is real, that there were sex workers among them who were HIV infected, and that protection is vital. Sex workers not only owned the data generated, but owned the response. By 2007, Ashodaya had started organised dissemination of its model through a community-to-community learning programme to help strengthen other sex-worker organisations. The programme offers technical assistance to various sex-worker groups and organisations as a national learning site. Soon it became a regional learning site, maturing into the Ashodaya Academy, which now offers technical assistance to sex-worker organisations in the Asia-Pacific region. Currently, through the European Commission, Ashodaya has been entrusted to build capacities for sex-worker projects in several countries in sub-Saharan Africa. Furthermore, NSWP has recognised the work of

For more on **Ashodaya Samithi** see http://www.ashodaya.org

the Ashodaya Academy along with VAMP to provide assistance in development of the pan-Africa sex workers' academy. Today Ashodaya Samithi has more than 8000 members; it has a programme management unit that makes key decisions about programme delivery and a governing board comprised of community leaders. The community now runs all programmes and has an annual budget of more than US$2 million.

Brazil: "without shame, you have an occupation"

For more on **Davida** see http://www.beijodarua.com.br

Davida, a sex-worker-led NGO, was established in 1992, in Rio de Janeiro, Brazil. The organisation was founded to promote the health of sex workers and their rights as citizens, to reduce stigma and violence, and to ensure an active role for sex workers in the creation of public policies. Davida, along with the Brazilian Network of Prostitutes founded in 1987, give voice and visibility to sex workers' needs and priorities, including, but not limited to, HIV prevention. Their approach to health and rights promotion has always been focused on creation of political, social, and cultural change regarding the manner in which sex work was understood and regulated in Brazil. Through advocacy and grass-roots organising, the efforts of the national network led to important policy changes at the federal level. In 2002, sex work was officially recognised as an occupation in the Ministry of Labour's Occupational Registry, entitling sex workers to social security and other workers benefits. Although the continued illegality of the premises where sex work takes place has made guaranteeing of full labour rights difficult, substantial progress has been made. Davida's work also expanded in the sociocultural and media realms. Throughout the 1990s and early 2000s, Davida partnered with the Brazilian Ministry of Health on groundbreaking HIV prevention campaigns centred around encouragement of respect for the profession and fighting of stigma, such as the Maria Sem Vergonha ("Maria, without shame": you have an occupation) public media campaign. In 2005, the organisation created its own fashion and clothing line called Daspu ("of the whores") that received wide national and international recognition. However, in the past 5 years, national and international support (political and financial) has greatly decreased for the Brazilian sex-worker rights and community empowerment movement, and in turn, its actions have become more restricted in scope. In June, 2013, great controversy emerged in Brazil regarding human rights and HIV prevention in sex workers. The Brazilian Minister of Health vetoed, and then later drastically changed, a rights-based anti-stigma HIV prevention campaign created in partnership between sex workers and the sexually transmitted disease [STD]/AIDS and viral hepatitis department of the Ministry of Health. First, the Minister removed the most controversial poster, which stated, "I am happy being a sex worker (Eu sou feliz sendo prostituta)". After additional political pressure, he vetoed the entire campaign, fired the Director of the STD/AIDS department and launched a drastically changed version of the campaign focused exclusively on condom use and devoid of any mention of citizenship or rights. Several members of the STD/AIDS department resigned, while the Prostitutes Network and other civil society groups and researchers organised large-scale mobilisations and letters of protest in response to the government's actions. These challenges signal the crucial importance of sustaining a community empowerment movement among sex workers with both national and international political and financial resources and ongoing collaborative partnerships.

What are the policy, programme, and research implications?

Our findings show the promise of community empowerment approaches in responding to the significantly increased risk of HIV infection in sex workers. However, results should be interpreted with caution because of the fairly weak research designs and low geographical variation of the studies in our nested meta-analysis. The heterogeneity recorded in the effects of community empowerment on specific HIV outcomes is expected in view of the nature of the approach. However, this heterogeneity further signals the appropriateness of an emphasis on the consistent trends noted regarding the effectiveness of community empowerment, rather than the degree of expected effect across settings.

Future studies are needed to more rigorously measure the effect of community empowerment approaches to HIV in sex workers across geographical and epidemic settings on both HIV and non-HIV outcomes. In particular, investigators need to assess the effect and process of community empowerment as a platform for combination HIV prevention interventions that integrate biomedical, behavioural, and structural elements. In settings such as sub-Saharan Africa, where the burden of HIV in sex workers is extremely high, opportunities might exist for cluster randomised controlled trials to establish with greater confidence the effects of community empowerment approaches in sex workers on HIV incidence. However, randomised controlled trials are by no means the only type of rigorous research needed moving forward.

Measurement of the community empowerment process needs to be improved with use of reliable aggregate measures that can be validated across settings. Such measures would assist in further documenting the complex social process of community empowerment and the various pathways through which it could lead to social and structural change. Qualitative and ethnographic research should also accompany the implementation of community empowerment approaches in sex workers to understand context-specific opportunities and challenges to implementation. Furthermore, the practice-based evidence generated by groups led by sex workers needs to be expanded.

Barriers remain in relation to the broad implementation of community empowerment-based responses to HIV. Our findings show that sex work is not yet widely understood as work or a legitimate occupation, and that sex workers continue to be portrayed as individuals who have made poor moral choices or who have been exploited. Whereas advances in thinking regarding the legitimacy of other marginalised populations, such as men who have sex with men and drug users, have taken place in recent years, the ability to reframe and create a new dialogue for sex work has encountered many challenges. Such difficulties might be partly due to the double standard faced by sex workers, who are often women, and who are considered to be in violation of various moral principles in terms of gender and sexuality norms. Divergent perspectives within the women's movement on the issue of sex work have also played an important part in restriction of the ability of the sex workers' rights movement to gain momentum on this issue, as have the few resources afforded to organisations and networks led by sex workers.[101] Despite these barriers, sex-worker organisations have developed innovative and effective strategies to address the multi-level challenges they face in the implementation of community empowerment initiatives to promote their health and human rights. These efforts need increased financial and political support if they are to advance.

Community empowerment approaches in sex workers have had important successes tackling social and structural constraints to protective sexual behaviours and, as a result, reducing behavioural susceptibility to HIV in the context of sex work. New HIV prevention technologies and approaches, such as treatment as prevention, self-testing, pre-exposure prophylaxis, and microbicides are becoming increasingly available globally. As these efforts expand, they provide an important opportunity for governments, donors, and NGOs to establish meaningful partnerships with sex-worker communities and organisations, and to integrate these initiatives into ongoing community empowerment efforts as one aspect of a combination package of services for sex workers.

Conclusions

The available evidence, although based on studies from a small number of projects and countries, shows that community empowerment holds great promise as an effective approach for reducing HIV risk in sex workers and that scale-up of these initiatives could contribute to curbing of the epidemic in sex workers and the general population.[1,24,25] Our findings emphasise the deep-rooted paradigmatic challenges associated with expansion of community empowerment-based responses to HIV in sex workers. Increased support is needed from donors, governments, partner organisations, and other allies to enable sex-worker groups to effectively and sustainably overcome barriers to implementation and scale-up of a community empowerment approach.

Contributors

All authors participated in the conceptualisation, development, and writing of the manuscript. DK led conceptualisation of paper, design of analysis, and overall write up. CK led the systematic review and meta-analysis, tables and write-up. RM-T provided community-focused framing and feedback on all aspects of manuscript development. SR-P, KTW, and PW led the case studies on India, Burma, and Kenya, respectively. AM did searches for effectiveness, cost-effectiveness, and measurement, and led the associated write up. VF did searches for barriers and facilitators to implementation and scale-up and led the associated write up. AM and VAF extracted data for systematic review articles. JB was the senior author providing technical and conceptual feedback on all aspects of the manuscript particularly framing, language, sociopolitical context of findings and their implications. All authors reviewed and approved the final manuscript.

Declaration of interests

We declare no competing interests.

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