

HIV prevention among female sex workers in Africa

A. Scheibe, F.M. Drame, K. Shannon

Abstract

Sex work occurs to meet the demand for sexual services and is a universal phenomenon. In Africa sex work takes many forms and is an important source of income for many women. Yet sex worker reproductive health needs remain largely unmet. The criminalisation of sex work; community and service provider stigma; violence; substance use and limited access to health services and prevention commodities contribute to the high HIV burden evident among female sex workers in Africa. Following UNAIDS' three pillar approach to HIV prevention and sex work we present an overview of current opportunities, barriers and suggestions to improve HIV prevention policy and programming for sex work in Africa. Universal access to a comprehensive package of HIV services is the first pillar. Reproductive health commodities; voluntary and anonymous HIV counselling and testing; treatment of sexually transmitted infections, HIV and opportunistic infections; harm reduction for substance use and psychosocial support services make up the recommended package of services. The second pillar is a sex worker-supportive environment. The inclusion of sex worker programmes within national HIV strategic planning; sex worker-led community mobilisation and the establishment of sex work community networks (comprised of sex workers, health service providers, law enforcers and other stakeholders) enable effective programme implementation and are recommended. The reduction of sex worker vulnerability and addressing structural issues form the final pillar. The decriminalisation of sex work; development of supportive policy; gender equality and economic development are key factors that need to be addressed to increase sex worker resilience. Evidence supports the public health benefit of human rights based approaches to HIV prevention; moralistic and restrictive policy and laws towards sex work are harmful and should be removed. The establishment of these pillars will increase sex worker safety and enhance the inclusiveness of the HIV response.

Keywords: HIV prevention, sex worker, Africa

Résumé

Le travail du sexe répond à une demande de services sexuels et est un phénomène universel. En Afrique, le travail du sexe prend des formes multiples et est une source de revenus pour beaucoup de femmes. Toutefois, les besoins en matière de santé sexuelle des Professionnelles (elles) du sexe restent largement insatisfaits. La criminalisation du travail du sexe, la stigmatisation issue de la communauté et des prestataires de services, la violence, l'importance de la toxicomanie et de l'abus de drogues, la faiblesse de l'offre de services, sont autant d'éléments qui expliquent pourquoi le VIH représente un fardeau particulièrement lourd chez des Professionnelles du sexe en Afrique. En se fondant sur l'approche développée par l'ONUSIDA autour des trois piliers en matière de prévention et de travail du sexe, nous présentons les opportunités actuelles, les contraintes et les suggestions afin d'améliorer les politiques et programmes de prévention en direction des Professionnelles du Sexe en Afrique. L'accès universel à un paquet complet de services est le premier pilier. Les services de santé de la reproduction, le Conseil Dépistage volontaire et anonyme du VIH, le traitement d'infections sexuellement transmissibles, le traitement du VIH et des infections opportunistes, la réduction de l'impact lié à la toxicomanie et des services de soutien psychosocial, constituent un premier paquet de services recommandé. Le

A. Scheibe is a South African medical doctor whose research interests focus around HIV prevention among key populations in Africa. In 2008, he started his research career as an investigator at the Desmond Tutu HIV Foundation (Cape Town, South Africa), working on strategies to use anti-retroviral agents for the prevention of HIV (PrEP). In 2010/2011, he led a key population gap analysis to inform the development of the South African National Strategic Plan on HIV/AIDS as it pertains to key populations and is assisting the South African Department of Health to develop guidelines for key populations. He is also a member of the Global HIV Vaccine Enterprise's Young Emerging Career Investigators Committee, and is due to complete his MPH in Health Economics from the University of Cape Town in 2012.

F.M. Drame is Associate Professor in Geography of Health at Université Gaston Berger, St Louis (Senegal). She heads the Research and Partnership Department of ENDA Santé, an international NGO based in Dakar (Senegal). Her work focuses on addressing the health needs of the most at risk populations in Senegal. She has several years experience in the field of HIV and women health and has conducted research and intervention programs in West and Central Africa. She earned a PhD in Geography in 2006 from Université Paris X-Nanterre (France) and has conducted collaborative research with scholars at John Hopkins University (MD, USA), Clark University (MA, USA), Paris Ouest Nanterre and IRD (France) among others.

K. Shannon is Director of the Gender & Sexual Health Initiative at the British Columbia Centre for Excellence in HIV/AIDS, Assistant Professor in the Department of Medicine at the University of British Columbia and Associate Faculty in the School of Population and Public Health. Her work on sex work and HIV prevention has contributed local and global policy discussions, including UNAIDS HIV updates. She is currently collaborating on a number of gender and HIV projects in India and sub-Saharan Africa and is co-investigator with the Canada-Africa HIV Prevention Trials (CAPT) Network. She also sits on the Women's Health Research Network (WHRN) Oversight Committee, Sex Industry Safety Action Group (SISWAG), CIHR and Ontario HIV Treatment Network scientific review committees, and is a faculty mentor with IMPART, a CIHR strategic gender initiative of CIHR.

Correspondence to: andrew.scheibe@gmail.com

deuxième pilier est constitué par la mise en place d'un environnement favorable. L'inclusion des programmes d'intervention auprès des PS dans les plans stratégiques de lutte contre le VIH, la mobilisation et le leadership des populations concernées et la mise en place d'un réseau d'acteurs oeuvrant dans ce domaine (PS, Services de santé, les agents de la force publique ainsi que d'autres intervenants) rendent possible la mise en oeuvre effective de programme et sont recommandées. La réduction de la vulnérabilité des PS et la prise en compte des facteurs structurels constituent le troisième pilier. La décriminalisation du travail du sexe, le développement d'un cadre de politique favorable, l'égalité de genre et le développement économique sont les facteurs clés à prendre en compte afin d'augmenter la résilience des Professionnelles du Sexe. Les expériences appuient une approche de prévention du VIH centrée sur le droit à la santé pour tous, les dispositions morales et restrictives sur le travail du sexe sont préjudiciables et devraient être supprimées. La mise en place de ces trois piliers augmenteront la sécurité des Professionnelles du sexe et le caractère inclusif de la réponse au VIH.

Mots clés: Prévention du VIH, Professionnelles du Sexe, Afrique

Introduction

As in most regions globally, many African individuals support themselves and their dependants through sex work, primarily women. Between 1% and 4% of women in several west African capital cities are estimated to be sex workers, with even higher proportions in areas where transport and employment networks increase the demand for paid sex (Campbell 2000; Vandepitte, Lyerla, Dallabetta, Crabbé, Alary & Buvé 2006; World Health Organization 2011). Sex work in Africa takes many forms, and may be street, brothel or home-based. The exchange of sex for goods as a practice is diverse and may include the exchange of sex for food, shelter, material goods and cash. Sex work may be occasional or occur on a regular scheduled basis. Some women may identify as sex workers and others not (World Health Organization 2011).

Beyond the significant number of women who rely on sex work for employment, an even greater population of male clients ('sex buyers') use their services. National HIV responses in Africa have tended to ignore the needs of sex workers and have failed to protect them against HIV. An estimated 37% of sub-Saharan female sex workers live with HIV (Baral, Beyrer, Muessig, Poteat, Wirtz, Decker, *et al.* 2012).

Structural conditions contribute to the drastically elevated rates of HIV infection among sex workers compared to the general population of women of reproductive age (Baral *et al.* 2012; Chen, Jha, Stirling, Sgaier, Daid, Kaul, *et al.* 2007). Widespread stigma and discrimination towards sex workers contribute to their exclusion and discourage health service access (World Health Organization 2011). Human rights abuses and violence aimed at sex workers, mostly at the hands of clients and law enforcement officers occur commonly and contribute to disempowerment and reduce their ability to negotiate condoms (among other effects), particularly where sex work is criminalised (Fick 2006; Grover 2010; Pauw & Brener 2003; Ramjee & Gouws 2002; Richter 2009; Wojcicki & Malala 2001). All or most aspects of sex work are criminalised in the majority of sub-Saharan African countries, leaving sex workers with little to no recourse to report violence and abuse, and often acting as a direct barrier to accessing HIV prevention, treatment and care services.

Preventing HIV among sex workers

The development of HIV responses that reflect the needs of those most at risk are necessary, and the recent UNAIDS Guidance Note on HIV and Sex Work offers important best practice guidelines. The fundamental principle outlined in the UNAIDS Guidance Note is the need to realise sex workers' human rights, and that without enabling these HIV responses will not be effective. We discuss progress, opportunities and barriers to building UNAIDS' three pillars for effective HIV prevention measures for sex workers in Africa, as outlined in this guidance note (UNAIDS 2012).

Pillar 1. Universal access to comprehensive HIV prevention, treatment, care and support services

The provision of a package of HIV prevention, treatment and care services to sex workers based on their needs is the basis for this pillar. Access to HIV prevention and reproductive health commodities (condoms, lubricant and contraceptives); voluntary HIV counselling and testing; treatment for HIV and other sexually transmitted and opportunistic infections; harm reduction interventions for substance abuse, and a range of social and welfare services are required to ensure a comprehensive HIV response (UNAIDS 2012).

The UNAIDS Investment Framework calls for investment in programmes for key populations as part of national HIV responses in order for efforts to have greater impact. The proposed approach includes recommendations for expanded coverage of peer based prevention interventions and comprehensive HIV services for sex workers (Schwartländer, Stover, Hallett, Atun, Avila, Gouws, *et al.* 2011). However, the UNAIDS advisory group on sex work and HIV has raised concerns about the failure of the Investment Framework to account for sex worker service scale up; limited resource allocation for condom promotion for key populations, and the limited description of the prescribed enablers and community mobilisation activities included in the Investment Framework (UNAIDS Advisory Group on HIV and Sex Work 2011).

The UNAIDS advisory group on sex work and HIV explicitly calls for sex worker-led interventions to increase coverage of safe, non-judgemental HIV prevention, treatment and care for sex workers. At the individual level, the promotion of condoms has been shown to significantly reduce the incidence of sexually transmitted infections (STIs) among sex workers in low and middle-income settings (Wariki, Ota, Mori, Koyanagi, Hori & Shibuya 2012). African experience has shown increased levels of protected sex among sex workers and their clients as a result of peer mediated condom promotion activities, with increased effects among those with greater peer exposure (Luchters, Chersich, Rinyiru, Barasa, King'ola, Mandaliya, *et al.* 2008). Skills around condom negotiation, correct condom usage and appropriate health seeking behaviours have been included in such peer led activities and should be included in programmes that are rolled out across Africa. Lubricant should also be provided with condoms to reduce condom breakage rates. However, client reluctance to use condoms; the incentive provided by increased payment for unprotected sex; varying condom usage by client characteristics, and sex worker perceptions of risk remain areas where much work needs to be done (Muñoz, Adedimeji & Alawode 2010; Varga 1997).

Focus on individual level factors to prevent HIV infections among sex workers (e.g. condom promotion and STI detection and treatment without peer support, community mobilisation and structural change) has been shown to only have modest effectiveness in many settings globally. As such, fostering supportive and enabling environments for the provision of sex worker services and addressing the structural and policy limitation and barriers to realising an individual's human rights, most importantly freedom from discrimination and respect, right to safe working environments and access to justice are fundamental issues that need to be tackled in order for HIV response efforts to have impact.

The best documented success of sex worker-led HIV prevention and health promotion interventions come from India, most notably the Sonagachi and Avahan models. The Avahan project reached coverage of nearly 80% where implemented and resulted in increased condom use, decreasing syphilis prevalence and stabilisation of HIV prevalence (Thilakavathi, Boopathi, Girish Kumar, Santhakumar, Senthilkumar, Eswaramurthy, *et al.* 2011).

Innovative methods could be used to facilitate access to health services—not limited to extended opening hours; the use of mobile services; the involvement of peer supporters, and building on the experience of providing comprehensive health services where sexual services are offered. Respectively these suggestions could address sex workers' need for flexible health facility opening hours; provide services nearer places of work; increase access to hard to reach sex workers, and build the capacity of health care workers to provide the recommended package of services. Increased linkage would enhance sex worker health system relationships, and if coupled with regular HIV and STI screening and management, family planning services and access to other necessary health services could greatly improve the health outcomes of sex workers. However, mandatory HIV testing should not be implemented, as it has been shown to further marginalise

sex workers, violates an individual's right to privacy and dignity and is harmful to public health outcomes (Global Commission on HIV and the Law 2012). HIV testing and counselling could be provider and/or patient initiated providing it is on a voluntary, confidential basis. HIV testing every three to six months should be encouraged. Recently sex workers in Malawi were forced to have mandatory HIV tests and the results were disclosed publicly in a magistrate court (<http://salcbloggers.wordpress.com/2011/03/10/sex-workers-in-malawi-challenge-mandatory-hiv-testing/>). Mandatory testing has severe consequences as it (1) violates human rights to privacy and consent; (2) the tested person may not be mentally prepared to receive the results; (3) the publication of HIV test results could lead to violence (social, psychological and physical) in the community and among sex workers and their clients and partners and (4) mandatory HIV testing may install a lasting fear among sex workers (and among other criminalised and stigmatised populations) that their results will be published, resulting in avoidance of testing and avoidance of other health and HIV prevention programmes.

The provision of services in areas of high concentration of sex demand has been used to reduce HIV incidence among sex worker clients along African transit corridors and in mining areas (Nyamuryekung'e, Laukamm-Josten, Vuylsteke, Mbuya, Hamelmann, Outwater, *et al.* 1997). Such services also provide opportunities for the promotion of HIV testing and condom usage as well as increase awareness around HIV among clients. The experience of the Sonagachi and Avahan models in India has informed best practice in this field and could be applied in the African context (<http://www.gatesfoundation.org/avahan/pages/overview.aspx>).

Several prevention options currently under assessment may prove to be effective for HIV prevention among sex workers and their clients. Sex workers and clients living with HIV and who access health services may greatly benefit from early access to antiretroviral therapy, potentially aiding national efforts to reduce HIV transmission among the broader population. The successful results in the use of 'treatment as prevention' to prevent HIV among serodiscordant couples may have a role in reducing HIV transmission between sex workers and clients (Baeten & Celum 2011). Pre-exposure prophylaxis in the form of a topical vaginal microbicide has shown promise in the African context, and a successful product could empower sex workers to reduce their vulnerability to HIV (Abdool Karim, Abdool Karim, Frohlich, Grobler, Baxter, Mansoor, *et al.* 2010). In the future, and if supported by evidence, oral pre-exposure prophylaxis may be another prevention option for HIV negative sex workers. Future prevention technologies would add to the armamentarium against HIV. Research into the acceptability of such interventions among sex workers is needed.

Pillar 2. Building supportive environments, strengthening partnerships and expanding choices

Macro level changes are required to ensure legal and policy environments safeguard the human rights of sex workers, and that individual level interventions can effectively be implemented.

National HIV strategic plans should guide collective action to reach zero new infections, zero AIDS related deaths and zero stigma, and sex workers and their clients should be included as a key population in need of focused interventions (UNAIDS 2011). Collaboration and active leadership of sex worker community and representative groups with a range of stakeholders can foster supportive environments. Community mobilisation among sex workers can result in capacity development of sex workers and their organisations, and is essential to increase access to hard to reach individuals and identify acceptable intervention strategies. In India, sex worker community mobilisation and the coordination of a multi-sectoral response to provide HIV prevention services for sex workers were an integral part of both the Sonagachi and Avahan models (Thilakavathi *et al.* 2011). The Sonagachi model in West Bengal resulted in 3–5 fold reductions in STI incidence and lower HIV prevalence compared to neighbouring communities (Swendeman, Basu, Das, Jana & Rotheram-Borus 2009). Similar African initiatives exist—the African Sex Worker Alliance; Enda Santé; Sisonke Sex Worker Movement; Uganda Women's Organization Network for Human Rights Advocacy (WONETHA); the Bar Hostess Empowerment and Support Programme and the Sex Workers' Education and Advocacy Taskforce (SWEAT) are further examples of networks and organisations that facilitate capacity building and the implementation of HIV prevention interventions for sex workers. The collective voice and leadership provided by such networks is essential to highlight injustices and to effectively advocate for, and lead change.

The African Sex Worker Alliance consists of a broad range of organisations involved in sex worker focused advocacy, human rights activities and service delivery (www.africansexworkeralliance.org). Progress towards improved engagement with governments and national health responses are being made. Enda Santé (Senegal) has successfully implemented holistic key population programming in eight countries in West Africa. The 'Borders and Vulnerabilities to HIV' (FEVE) programme is an example of a project that incorporates community involvement and mobilisation activities; comprehensive service provision and activities to reduce the impact of HIV while also engaging key stakeholders, including the media and police. FEVE has 'made visible' people previously ignored in west African national HIV responses, and secured additional financial resources, including from the Global Fund for ongoing sex worker focused interventions (Enda Santé 2011; ONUSIDA, Secrétariat Exécutif du CNLS & Ministère de la santé et de l'Hygiène Publique 2010).

Effective partnerships between key stakeholders (e.g. between sex workers and police, health care providers, funders and community leaders) are needed in order to support the implementation of effective programmes and monitor their progress. While this remains challenging, recent evidence from India and Senegal shows that multi-pronged approaches that include police-sex worker partnerships with sensitivity training can be effective in reducing violence against, and HIV risks among, sex workers (Enda Santé 2011; Thilakavathi *et al.* 2011).

The right of women to choose sex work as a profession should be honoured, and they must live and work in safe environments.

Expanding the employment options for women sex workers must take place from a perspective that aims to empower women to choose their profession. The effect of offering other professional occupations to sex workers is difficult to document. Experience from Kenya states that 20% of sex workers involved in a study stopped sex work after accessing microcredit (Costigan, Odek, Ngugi, Oneko, Moses & Plummer, *et al.* 2002). In both west and east Africa, providing opportunities for sex workers to diversify their sources of income lead to a reduction in the number of commercial sex partners (Odek, Busza, Morris, Cleland, Ngugi & Ferguson 2009); reduction of the time spent in sex work venues; facilitation of social reintegration, and increased self-esteem (Enda Santé 2010).

Pillar 3. Reduce vulnerability and address structural issues

In Africa, where the main transmission risk factor for HIV is unprotected sexual intercourse, sex worker vulnerability to HIV is largely due to structural factors (such as social exclusion, stigmatisation, discrimination and the effects of criminalisation of sex work) (CNLS-IST Burkina Faso, BASP 96 2011; Richter 2008; UNAIDS & The World Bank 2010). Condoms have been used as evidence by police to arrest sex workers in contexts where sex work is criminalised (UNAIDS 2012). Structural factors often prevent sex workers from accessing HIV prevention commodities, particularly condoms, thus preventing them from protecting themselves against HIV during sexual intercourse.

Discrimination, stigma and violence (verbal, physical and sexual) by law enforcement officers, clients, family members, community members and service providers negatively affect the health of sex workers and increases their vulnerability to HIV (Shannon & Csete 2010). Addressing such issues can be challenging, but efforts to change policy frameworks and sensitise policy makers, service providers, law enforcement agencies and communities to the effects of discrimination, exclusion and associated violence are essential if real change is desired (Richter 2010).

Supportive policy, sex worker empowerment and other structural interventions are suggested to have a positive effect on HIV prevalence, however, difficulties in measuring such effects exist, and empirical data from African is limited (Shahmanesh, Patel, Mabey & Cowan 2008). The literature and field experience have shown that legislation, health policy, economy and gender inequalities are among the main factors reducing sex worker resilience. This situation leads to a diversification of sex worker practices in Africa. In most countries in west, central and southern Africa, sex work is criminalised and socially rejected. Even in countries where its exercise is regulated—often with the objective of controlling STIs—society, culture and religion reject it. Decriminalisation of sex work was implemented in New Zealand in 2003, with sex workers reporting increased empowerment and accessibility to police services (New Zealand Ministry of Justice 2008).

Nowadays this exercise evolves and adapts to different situations and environments. Both the decline of marriage accompanied by greater empowerment of women in some African capitals and

major cities (Hunter 2010; Johnson-Hanks 2007) and its universality in some countries (Foley & Drame 2012), reinforce a multitude of expressions of transactional sex in which women do not necessarily recognise themselves as sex workers and have a level of vulnerability to STIs and HIV that need to be taken into consideration in a context of precarious living standards, and new thoughts on HIV incidence dynamics in many parts of Africa (UNAIDS & The World Bank 2010). Women who engage in transactional sex may be missed by programs that target self-identified or full-time sex workers. Increased efforts to increase health service access by women in general and address individual risk factors for HIV transmission among all female clients may assist to address vulnerability among these women.

The low standard of living of some sex workers was considered in some publications as a factor that reduces their resilience facing unprotected sexual intercourse (Mensah 2006). But the links between standard of living and sex work are not unidirectional (Mishraa, Asscheb, Greenerc, Vaessena, Honga, Ghysc, *et al.* 2007; Potts, Halperin, Kirby, Swidler, Marseille & Klausner 2008; Shelton 2007). In west and central Africa, the expression of poverty has evolved from a rural pattern to an urban one, where opportunities and interactions offered in urban contexts are more visible and job crisis preferentially affect women. This gender issue goes beyond sex workers to female sexuality. Many juridical dispositions are currently in contradiction between national codes (criminal and family) and international conventions signed by the countries for gender inequity reduction. Both physical, psychological or emotional, sexual and socio-economic violence reduce access to health services (Poteat, Diouf, Dramé, Ndaw, Traoré, Dhaliwal, *et al.* 2011), and violence affecting sex workers has been widely documented across Africa, often at the hands of those charged with upholding and enforcing the law (Fick 2006; World Health Organisation 2011).

First and foremost, evidence-based policy reforms to remove criminal barriers and punitive approaches to sex work are needed to ensure access to HIV prevention, treatment and care. Interventions to address structural issues need to focus on (i) improved integration between sexual and reproductive health and HIV services that are in line with human rights based approaches and (ii) developing a stronger focus on changing ideas and awareness around the social benefit that can result from enabling structural changes.

Offering services for sexual and reproductive health for women globally and sex workers specifically, is a step

- towards a reduction of women's vulnerability during sexual intercourse,
- towards a reduction of unwanted pregnancies and the associated socioeconomic responsibility thereof and
- towards a better consideration of sex workers' needs regarding sexual and reproductive health.

The Global Commission on HIV and the Law assessed the current global environment for sex workers, and analysed the effects structural barriers have on sex workers and recommend that laws prohibiting consenting adults to buy or sell sex should be

repealed (Global Commission on HIV and the Law 2012). In most west and central African countries, HIV Specific Law has been adopted by Parliament or is being discussed. In spite of the progress noted in this Law, many efforts are still needed to consider key populations and to adapt the Law to the various contexts in Africa and to open the discussion on the criminalisation of HIV transmission and to inform more about its existence and application. These claims meet the question of the right to health, including the right of access to information and health services. The existing services are underutilised, in a context of non-respect of individual rights including the right to health.

Finally, the problem of stigma is complex and cannot be solved by only introducing or withdrawing a law. In countries where legislation is silent on sex work, but condemns sexual procurement and soliciting, the development of specific health services to meet sex workers' health needs has been possible, even in contexts unfavourable to sex workers. In Senegal, for example, social representations condemn this activity even when tolerated by the Law. This often leads to the development of clandestine practices. Experience has shown that offering specific services, building for the emergence of research data, training and advocating with media, health professionals, religious and security forces contribute to reduce sex worker vulnerability to HIV and to better address structural issues.

It is also essential for resources to be allocated for sex worker services, including resources to address structural issues. Funders that explicitly prohibit assistance for sex worker focused programmes are in contradiction to human rights and public health based approaches (CHANGE 2011). Development partners should embrace initiatives that facilitate enabling environments and provide individuals with the right to access health services. The PEPFAR anti-prostitution and similar pledges need to be removed and replaced with policies that support sex worker focused interventions and empower women to work and live in safety. Governments should also be accountable for upholding the human rights of sex workers and addressing HIV prevention needs.

Conclusion

There is a need for a strong response by governments, accountability by funders, policy reforms and support for sex worker-led initiatives. The demand for paid sex is unlikely to be reduced, and the women supplying sexual services to meet this demand have the right to do so in a safe, empowered manner. Interventions to engage with the clients of sex workers in HIV prevention efforts are also essential. The UNAIDS framework provides pillars upon which to implement effective HIV responses, and evidence supports the effectiveness of interventions, including African ones. Moralistic and restrictive measures towards sex work are harmful. Evidence supports public health and human rights based approaches to sex work and these need to be implemented by governments, supported by donors and implemented by caring individuals. The violence and exclusion facing sex workers can only be addressed once structural changes are made to ensure the safety of all is realised, and all people are free from discrimination on any basis.

References

- Abdool Karim, Q., Abdool Karim, S.S., Frohlich, J.A., Grobler, A.C., Baxter, C., Mansoor, L.E., et al. (2010). Effectiveness and safety of tenofovir gel, an antiretroviral microbicide, for the prevention of HIV infection in women. *Science*, 329(5996), 1168–1174, doi:10.1126/science.1193748.
- Baeten, J. & Celum, C. (2011). Antiretroviral pre-exposure prophylaxis for HIV-1 prevention among heterosexual African men and women: the partners PrEP study. 6th IAS Conference on HIV Pathogenesis, Treatment and Prevention, July, Rome.
- Baral, S., Beyrer, C., Muessig, K., Poteat, T., Wirtz, A.L., Decker, M.R., et al. (2012). Burden of HIV among female sex workers in low-income and middle-income countries: a systematic review and meta-analysis. *The Lancet Infectious Diseases*, 3099(12), 1–12, doi:10.1016/S1473-3099(12)70066-X.
- Campbell, C. (2000). Selling sex in the time of AIDS: the psycho-social context of condom use by sex workers on a Southern African mine. *Social Science & Medicine*, 50(4), 479–494.
- CHANGE (2011, July 6). Women's Health rights Advocates Applaud Court Ruling Against Bush-era HIV/AIDS Policy Against Sex Workers. Press Release, Washington, DC, CHANGE.
- Chen, L., Jha, P., Stirling, B., Sgaier, S.K., Daid, T., Kaul, R., et al. (2007). Sexual risk factors for HIV infection in early and advanced HIV epidemics in sub-Saharan Africa: systematic overview of 68 epidemiological studies. *PLoS One*, 2(10), e1001, doi:10.1371/journal.pone.0001001.
- CNLS-IST Burkina Faso, BASP 96 (2011). Enquête de surveillance comportementale auprès des groupes à haut risque : Travailleuses du Sexe (TS) et leurs clients au Burkina Faso. Rapport final. Burkino Faso, CNLS-IST.
- Costigan, A., Odek, W.O., Ngugi, E.N., Onoko, M., Moses, S., Plummer, F.A., et al. (2002). Income generation for sex workers in Nairobi, Kenya: business uptake and behavior change. XIVth International AIDS Conference, July, Barcelona, Spain, Abstract Mo Pe F4143.
- Enda Santé (2010). Revue des travaux et expériences de soutien économique en faveur des Personnes Vivant avec le VIH et des groupes vulnérables au VIH. Document de capitalisation. Dakar, Enda Santé.
- Enda Santé (2011). Frontières et Vulnérabilités au VIH en Afrique de l'ouest (FEVE). Burkina Faso, Cap-Vert, Gambie, Guinée, Guinée Bissau, Mali, Niger et Sénégal. Rapport annuel. Dakar, Enda Santé.
- Fick, N. (2006). Sex workers speak out policing and the sex industry. *SA Crime Quarterly*, March(15), 13–18.
- Foley, E. & Drame, F.M. (2012). *Mbaraan* and the shifting political economy of sex in urban Senegal. In Press.
- Global Commission on HIV and the Law (2012). Global Commission on HIV and the Law. Risks, Rights and Health. Final report. New York, UNDP, HIV/AIDS Group.
- Grover, A. (2010). Report of the Special Rapporteur on the Right of Everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health. General Assembly, Human Rights Council, Fourteenth session, 27 April 2010, Agenda item 3. Geneva, World Health Organization.
- Hunter, M. (2010). *Love in the Time of AIDS: Inequality, Gender, and Rights in South Africa*. Bloomington, IN, Indiana University Press.
- Johnson-Hanks, J. (2007). Women on the market: marriage, consumption, and the Internet in urban Cameroon. *American Ethnologist*, 34(4), 642–658.
- Luchters, S., Chersich, M.F., Rinyiru, A., Barasa, M.S., King'ola, N., Mandaliya, K., et al. (2008). Impact of five years of peer-mediated interventions on sexual behavior and sexually transmitted infections among female sex workers in Mombasa, Kenya. *BMC Public Health*, 8, 143, doi:10.1186/1471-2458-8-143.
- Mensah, S.A. (2006). Poverty and HIV prevalence in Ghana: a geographical perspective. *GeoJournal*, 66, 311–324, doi: 10.1007/s10708-006-9003-6.
- Mishra, V., Asscheb, S.B.V., Greener, R., Vaessena, M., Honga, R., Ghysc, P.D., et al. (2007). HIV infection does not disproportionately affect the poorer in sub-Saharan Africa. *AIDS* 2007, 21(suppl. 7), S17–S28.
- Muñoz, J., Adedimeji, A., & Alawode, O. (2010). They bring AIDS to us and say we give it to them': socio-structural context of female sex workers' vulnerability to HIV infection in Ibadan, Nigeria. *SAHARA J: Journal of Social Aspects of HIV/AIDS Research Alliance/SAHARA*, Human Sciences Research Council, 7(2), 52–61.
- New Zealand Ministry of Justice (2008). Report of the Prostitution Law Review Committee on the Operation of the Prostitution Reform Act. Wellington, New Zealand Ministry of Justice.
- Nyamuryekung'e, K., Laukamm-Josten, U., Vuylsteke, B., Mbuya, C., Hamelmann, C., Outwater, A., et al. (1997). STD services for women at truck stop in Tanzania: evaluation of acceptable approaches. *East African Medical Journal*, 74(6), 3437.
- Odek, W.O., Busza, J., Morris, C.N., Cleland, J., Ngugi, E.N., & Ferguson, A.G. (2009). Effects of micro-enterprise services on HIV risk behaviour among female sex workers in Kenya's urban slums. *AIDS and Behaviour*, 13(3), 449–461.
- ONUSIDA, Secrétariat Exécutif du CNLS, & Ministère de la santé et de l'Hygiène Publique (2010). Le point sur l'épidémie du SIDA et de la riposte nationale en République de Guinée.
- Pauw, I. & Brener, L. (2003). You are just whores—you can't be raped': barriers to safer sex practices among women street sex workers in Cape Town. *Culture, Health & Sexuality*, 5(6), 465–481, doi:10.1080/136910501185198.
- Poteat, T., Diouf, D., Dramé, F.M., Ndaw, M., Traoré, C., Dhaliwal, M., et al. (2011). HIV risk among MSM in Senegal: a qualitative rapid assessment of the impact of enforcing laws that criminalize same sex practices. *Plos One*, 6(12), e28760, doi:10.1371/journal.pone.0028760.
- Potts, M., Halperin, D.T., Kirby, D., Swidler, A., Marseille, E., Klausner, J.D., et al. (2008). Public health. Reassessing HIV prevention. *Science*, 320, 749–50.
- Ramjee, G. & Gouws, E. (2002). Prevalence of HIV among truck drivers visiting sex workers in KwaZulu-Natal, South Africa. *Sexually Transmitted Diseases*, 29(1), 449.
- Richter, M. (2008). Sex work, reform initiatives and HIV/AIDS in inner-city Johannesburg. *African Journal of AIDS Research*, 7(1), 323–333, doi:10.2989/AJAR.2008.7.1.1.429.
- Richter, M. (2009). Are sex workers entitled to socio-economic rights? Separating myth from reality. *Economic and Social Rights in South Africa*, 10(4), 2–6.
- Richter, M. (2010). Pimp my ride for 2010: sex work, legal reform and HIV/AIDS. *The Southern African Media Diversity Journal*, (7), 80–88.
- Schwartzländer, B., Stover, J., Hallett, T., Atun, R., Avila, C., Gouws, E., et al. (2011). Towards an improved investment approach for an effective response to HIV/AIDS. *Lancet*, 377(9782), 2031–2041, doi:10.1016/S0140-6736(11)60702-2.
- Shahmanesh, M., Patel, V., Mabey, D., & Cowan, F. (2008). Effectiveness of interventions for the prevention of HIV and other sexually transmitted infections in female sex workers in resource poor setting: a systematic review. *Tropical Medicine & International Health*, 13(5), 659–679, doi:10.1111/j.1365-3156.2008.02040.x.
- Shannon, K. & Csete, J. (2010). JAMA violence, laws and HIV risk among sex workers commentary_Shannon&Csete Aug 2010. *JAMA*, 304(5), 573–574.
- Shelton, J.D. (2007). Ten myths and one truth about generalized HIV epidemics. *Lancet*, 370(1), 1809–1811.
- Swendeman, D., Basu, I., Das, S., Jana, S., & Rotheram-Borus, M.J. (2009). Empowering sex workers in India to reduce vulnerability to HIV and sexually transmitted diseases. *Social Science & Medicine* (1982), 69(8), 1157–1166, doi:10.1016/j.socscimed.2009.07.035.
- Thilakavathi, S., Boopathi, K., Girish Kumar, C., Santhakumar, A., Senthilkumar, R., Eswaramurthy, C., et al. (2011). Assessment of the scale, coverage and outcomes of the Avahan HIV prevention program for female sex workers in Tamil Nadu, India: is there evidence of an effect? *BMC Public Health*, 11(suppl. 6), S3, BioMed Central Ltd. doi:10.1186/1471-2458-11-S6-S3.
- UNAIDS (2011). How to Get to Zero: Faster, Smarter, Better. World AIDS Day Report. Geneva, UNAIDS.
- UNAIDS (2012). UNAIDS Guidance Note on HIV and Sex Work. Geneva, UNAIDS.
- UNAIDS Advisory Group on HIV and Sex Work (2011). UNAIDS Advisory Group on HIV and Sex Work response to article 'Towards an improved investment approach for an effective response to HIV/AIDS'. Edinburgh, UNAIDS Advisory Group on HIV and Sex Work.
- UNAIDS & The World Bank (2010). Nouvelles Infections VIH par mode de transmission en Afrique de l'Ouest: une analyse plurinationale. Dakar, UNAIDS, The World Bank.
- Vandepitte, J., Lyerla, R., Dallabetta, G., Crabbé, F., Alary, M., & Buvé, A. (2006). Estimates of the number of female sex workers in different regions of the world. *Sexually Transmitted Infections*, 82(suppl. 3), iii18–iii25, doi:10.1136/sti.2006.020081.
- Varga, C.A. (1997). The condom conundrum: barriers to condom use among commercial sex workers in Durban, South Africa. *African Journal of Reproductive Health*, 1(1), 74–88.
- Wariki, W.M.V., Ota, E., Mori, R., Koyanagi, A., Hori, N., & Shibuya, K. (2012). Behavioral interventions to reduce the transmission of HIV infection among sex workers and their clients in low- and middle-income countries. *Cochrane Database of Systematic Reviews* (Online), 2(2), CD005272, doi:10.1002/14651858.CD005272.pub3.
- Wojcicki, J.M. & Malala, J. (2001). Condom use, power and HIV/AIDS risk: sex-workers bargain for survival in Hillbrow/Joubert Park/Berea. *Johannesburg, Social Science & Medicine*, 53(1), 99–121.
- World Health Organization (2011). Preventing HIV Among Sex Workers in Sub-Saharan Africa: A Literature Review. Geneva, World Health Organization.