Advancing HIV Prevention in South Africa: The CoOp Intervention Studies

A tri-faceted epidemic of gender-based violence, substance use, and HIV/AIDS is threatening to engulf South Africa, where more people are living with HIV than any other country.[1] South African women bear the greatest burden of HIV, with HIV prevalence of about 23% among females, compared with about 13% among males.[1]

With a fifth of the global burden of HIV in South Africa alone, it is time to make evidence-based HIV prevention interventions, such as the Women's Health CoOp, available to all South African women.

Authors:
Wendee M. Wechsberg*, Bronwyn Myers**

*RTI International, Research Triangle Park, NC, USA

**South African Medical Research Council, Tygerberg, South Africa

RTI International is a trade name of Research Triangle Institute.

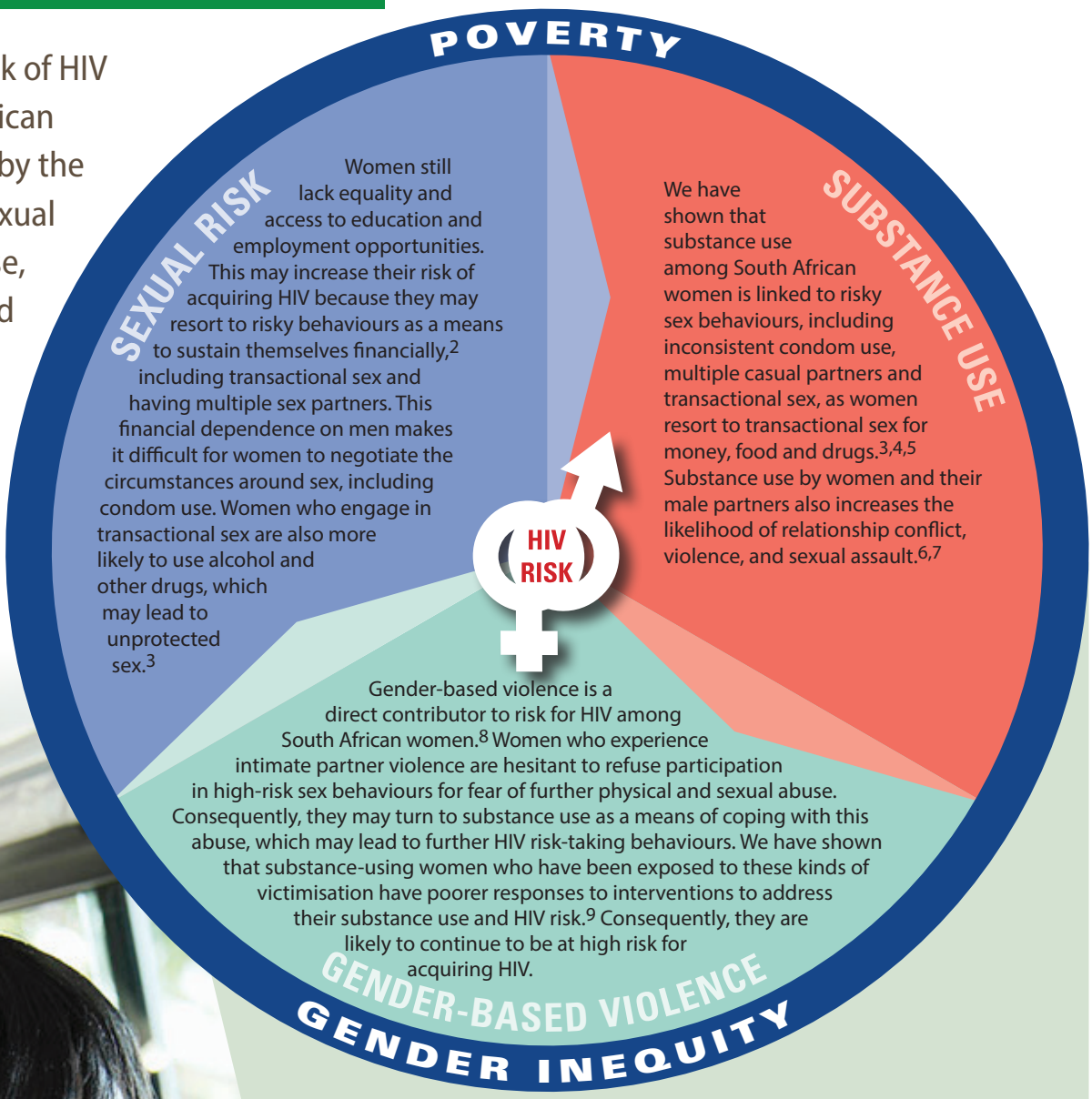
To learn more, please contact:

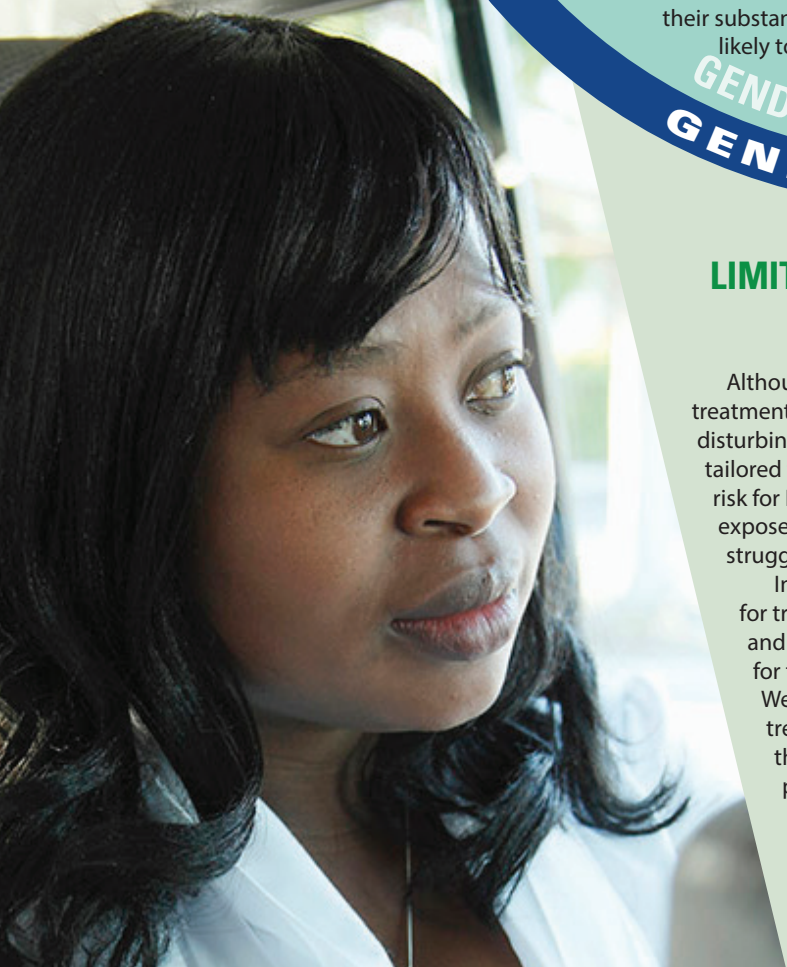
Wendee M. Wechsberg, PhD
RTI International
3040 E. Cornwallis Road
Research Triangle Park, NC 27709-2194 USA
(+1) 919-541-6422
wmw@rti.org

Bronwyn Myers, PhD
South African Medical Research Council
PO Box 19070
7505 Tygerberg, South Africa
(021) 938-0350
bmyers@mrc.ac.za

HIV RISK IS INCREASING AMONG SOUTH AFRICAN WOMEN

The increasing risk of HIV among South African women is driven by the intersection of sexual risk, substance use, and gender-based violence, as well as difficulties in accessing health services underpinned by the context of poverty.





LIMITED UPTAKE OF HIV TESTING, TREATMENT, AND SUBSTANCE ABUSE SERVICES

Although access to HIV Counselling and Testing (HCT) and antiretroviral treatment (ART) has improved in South Africa, new HIV infection rates remain disturbingly high.[1] This is partly because current HIV prevention efforts are not tailored to address the intersecting structural and behavioural determinants of risk for HIV infection among vulnerable women who use substances and are exposed to victimisation. Also, most-at-risk women who use substances still struggle to access HCT and HIV treatment services.

In addition, despite high levels of substance abuse and the evident need for treatment, poor women are unlikely to perceive a need for treatment and are therefore unlikely to seek it.[10] Even women who perceive a need for treatment are largely unaware of where they can go for assistance. We have shown that women are also reluctant to seek substance abuse treatment due to the sequestered nature of many rehabilitation centres that removes them from society, the lack of aftercare treatment to prepare them for reentering everyday life, and the belief that available treatment is ineffective.[11]

The limited uptake of available HIV and substance abuse services by vulnerable women is a concern, as it keeps them trapped in a cycle of risk taking that is likely to further fuel HIV incidence in this setting.

ADDRESSING HIV PREVENTION IN AN INTEGRATED MANNER

Gender inequality and poverty, substance abuse, gender-based violence, and sexual risk taking all converge to fuel HIV/AIDS in South Africa. It is clear that effective HIV prevention needs interventions that reduce these intersecting risks in a comprehensive manner, such as the Women's Health CoOp intervention.

Western Cape Women's Health CoOp

This study tested the woman-focused Women's Health CoOp (WHC) intervention relative to both a nutrition intervention and HCT in a randomised field trial of young women from 14 communities who were engaging in substance use and risky sex behaviours. The study sought to increase condom use, decrease substance abuse, and prevent intimate partner violence, and thereby stem the spread of HIV.[3,12] The WHC is a two-session group intervention grounded in feminist and empowerment theory. Components have been adapted for use in Pretoria and the Western Cape among women, pregnant women, men, and couples. The intervention equips participants to reduce their substance use risks for HIV and sexual risk behaviours and to address inequalities in relationship power and risks for victimisation through education and skill-building exercises. These interventions have shown efficacy and on a larger scale hold promise to ameliorate the spread of HIV.

The WHC was funded under U.S. National Institute on Drug Abuse grant R01 HD058320.

Key Findings from the Western Cape Women's Health CoOp

- At baseline, 37% of Black African women and 9% of Coloured women tested positive for HIV.[12]
- After 12 months, 27% of participants in the WCH arm were drug-free, significantly more than participants in the nutrition arm (17%) or those in the HCT arm (20%).[12]
- After 12 months, HIV-positive women in the WHC arm were significantly more likely to be abstinent from alcohol than HIV-positive women in the nutrition or HCT arms.[13]
- In a substudy of pregnant and nonpregnant women (382 women), most (nearly 87%) expressed the need for more employment opportunities; only about 48% expressed a need for alcohol and drug services.[14]
- Interventions may need to be customised by ethnicity. Coloured women would benefit more from community-based treatment services; whereas Black African women would benefit more from low-intensity, brief interventions focusing on drug use and the associated risks.[15]
- Women in the WHC arm were one-third less likely to become HIV infected.

The Couples Health CoOp

This clustered randomised field experiment developed a couples and men's intervention that could parallel and expand the WHC and build upon lessons learned. Neighbourhood assignment in the Khayelitsha township was randomised and was divided into three conditions: (1) the WHC control group; (2) the separate Men's Health CoOp and WHC; and (3) the Couples Health CoOp (CHC). Couples-based prevention emphasises mutual responsibility between partners and promotes correct and consistent condom use. The intervention also encourages monogamy for these couples to prevent HIV risk.[6,16]

Couples' Health CoOp

The CHC study was funded under U.S. National Institute on Alcohol Abuse and Alcoholism (NIAAA) grant R01 AA018076.

Key Findings from the Couples Health CoOp

- At baseline, 26% of the female partners tested positive for HIV, whereas only 13% of men tested HIV positive.[16]
- Men in the CHC arm were 2 to 3 times less likely to drink heavily than men in the other two study arms at the 6-month follow-up.[16]
- Men in the CHC arm were more than 4 times as likely to report protected sex than men in the WHC arm at the 6-month follow-up.[16]
- The CHC had a significant impact on lowering HIV incidence among women and reducing risk behaviors among men, specifically alcohol use and unprotected sex.[16]
- A peer-led men's group intervention (the Men's Health CoOp) for alcohol-using men is efficacious in increasing condom use, reducing alcohol use, and increasing egalitarian gender norms.[17]
- Although the CHC intervention was significantly more successful than the other arms at reducing risk behaviors and HIV, this was a small sample and the intervention should be executed on a larger scale to increase statistical power.

NEXT STEPS: SCALING UP THE WHC INTERVENTION

The WHC has been conducted in Pretoria and in Cape Town and has demonstrated efficacy. It is time to move this woman-focused evidence-based HIV prevention intervention into general practice. We recently received a new award from the U.S. National Institutes of Health to conduct a study using implementation science approaches to assess the WHC with respect to feasibility, acceptability by providers, adoption, fidelity of implementation, and sustainability of use in antenatal clinics, health departments, and substance abuse treatment programmes.

This study is funded under NIAAA grant R01AA022882.

EXPANDING HIV PREVENTION TO ALL

Our research has demonstrated that multilevel HIV prevention interventions have the potential to reduce the spread of HIV among most-at-risk vulnerable populations. What is needed now is a coordinated effort to make these interventions widely available. Whether you are a policymaker, clinician, health care administrator or public health planner, you can take steps to begin protecting vulnerable at-risk populations from HIV.

STEPS FOR...

Individuals in Positions of Leadership and Governance

- **Develop a strategy to address alcohol and other drug use disorders for at-risk populations that face challenges reaching HIV and substance abuse services.**
- **Reduce challenges and barriers to antiretroviral treatment (ART) to reach the thousands of most-at-risk populations in South Africa still untreated:**

Ensure adherence to ART among most-at-risk populations who are living with HIV.

Enforce gender equality laws by punishing perpetrators of rape and gender-based violence, including intimate partner violence.

Implement effective primary prevention programmes in communities to prevent initial exposure to victimisation.

Clinicians, Health Care Administrators, and Public Health Planners

- **Provide women-focused evidence-based interventions that address substance abuse and the intersecting factors leading to HIV infection:**

Create accessible treatment centres that provide free HIV testing, offer effective substance use treatment programmes, and emphasise the importance of aftercare.

Customise treatment programmes by ethnicity so each ethnic group receives a programme tailored for their specific needs.

Reduce stigma and other barriers preventing people who use drugs from receiving proper care, treatment and support.

- **Implement an evidence-based HIV biobehavioral combination intervention for at-risk couples:**

Seek out at-risk couples for HCT.

Provide the Couples Health CoOp intervention.

Provide PREP for serodiscordant couples and other high-risk persons, ensuring adherence to ART and retention in care.

FUTURE POSSIBILITIES... Expanding the reach of these evidence-based interventions to rural communities to address the intersecting factors of substance use, sexual risk, gender-based violence, and traditional gender roles related to HIV transmission.

References

1 Simbayi, L.C., Shisana, O., Rehle, T., Onoya, D., Jooste, S., Zungu, N., Labadarios, D., & Zuma K. (2014). *South African National HIV Prevalence, Incidence and Behaviour Survey, 2012 Cape Town*. Cape Town, South Africa: Human Sciences Research Council.

2 Wechsberg, W.M., Luseno, W., Riehman, K., Karg, R., Browne, F., & Parry, C. (2008). Substance use and sexual risk within the context of gender inequality in South Africa. *Substance Use and Misuse, 43*, 1186–1201.

3 Wechsberg, W.M., Luseno, W. K., Lam, W.K., Parry, C.D., & Morojele, N. K. (2006). Substance use, sexual risk, and violence: HIV prevention intervention with sex workers in Pretoria. *AIDS and Behavior, 10*(2), 131–137.

4 Wechsberg, W.M., Myers, B., Kline, T.L., Carney, T., Browne, F.A., & Novak, S.P. (2012). The relationship of alcohol and other drug use typologies to sex risk behaviors among vulnerable women in Cape Town, South Africa. *Journal of AIDS and Clinical Research*, S1:015. doi:10.4172/2155-6113.S1-015.

5 Parry, C.D.H., Plüddemann, A., Myers, B., Wechsberg, W.M. & Flisher, A.J. (2011). Methamphetamine and sexual risk behaviour in Cape Town, South Africa: A review of 8 studies conducted between 2004 and 2007. *African Journal of Psychiatry, 14*(5), 372–376.

6 Wechsberg, W., Myers, B., Reed, E., Carney, T., Emanuel, A.N., & Browne, F.A. (2013). Substance use, gender inequity, violence and sexual risk among couples in Cape Town. *Culture, Health, and Sexuality, 15*(10), 1221–1236.

7 Wechsberg, W.M., Sawyer, K., & Myers, B. (2006). Cultural similarities and differences between a sample of Black/African and Coloured women in South Africa: Convergence of risk related to substance use, sexual behavior, and violence. *Women's Health, 43*(2), 73–92.

8 Jewkes, R,K,, Dunkle, K., Nduna, M., & Shai, N. (2010). Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: A cohort study. *Lancet, 376*(9734), 41–48.

9 Reed, E., Myers, B., Novak, S.P., Browne. F.A., & Wechsberg, W.M. (2014). Experiences of violence and association with decreased drug abstinence among women in Cape Town, South Africa. *AIDS and Behavior*, Jun 17. [Epub ahead of print].

10 Myers, B., Kline, T.L., Doherty, I.A., Carney, T., & Wechsberg, W.M. (2014). Perceived need for drug treatment among young women from disadvantaged communities in Cape Town, South Africa. BMC *Psychiatry, 14*:100. doi:10.1186/1471-244x-14-100.

11 Reed, E., Emanuael, A.N., Myers, B., Johnson, K., & Wechsberg, W. (2013). The relevance of social contexts and social action in reducing substance use and victimization among women participating in an HIV prevention intervention in Cape Town, South Africa. *Substance Abuse and Rehabilitation, 4*, 55–64.

12 Wechsberg, W., Jewkes, R., Novak, S.P., Kline, Tracy., Myers, B., Browne, F.A., Carney, T., Lopez, A.A.M., & Parry, C. (2013). A brief intervention for drug use, sexual risk behaviours and violence prevention with vulnerable women in South Africa: A randomized trial of the Women's Health CoOp. *BMJ Open, 3*:e002622. doi:10.1136/BMJopen-002622.

13 Zule, W., Myers, B., Carney, T., Novak, S.P., McCormick, K., & Wechsberg WM. (2014). Alcohol and drug use outcomes among vulnerable women living with HIV: Results from the Western Cape Women's Health CoOp. *AIDS Care*, Jul 21:1-6. [Epub ahead of print].

14 Jones, H.E., Browne, F.A., Myers, B.J., Carney, T., Ellerson, R.M., Kline, T.L., et al. (2011). Pregnant and non-pregnant women in Cape Town, South Africa: Drug use, sexual behavior, and the need for comprehensive services. *International Journal of Pediatrics*, 353410. doi:10.1155/2011/353410. [Epub 2011 Apr 6].

15 Myers, B., Kline, T.L., Browne, F.A., Carney, T., Parry, C.D.H., Johnson, K., & Wechsberg, W.M. (2013). Ethnic differences in alcohol and drug use and related sexual risks for HIV among vulnerable women in Cape Town, South Africa: Implications for interventions. *BMC Public Health, 13*, 174. doi: 10.1186/1471-2458-13-174.

16 Wechsberg, W.M., Zule, W.A., Minnis, A., Doherty, I., Kline, T., El-Bassel, N., Myers, B., Carney, T., Parry, C., & Miller, W. (2014, July). *Change in culture-specific risks following a couples-based HIV intervention: Biobehavioral outcomes from a randomized clustered trial in a Cape Town township*. Poster presented at the 20th International AIDS Conference, Melbourne, Australia.

17 Zule, W., Doherty, I., Krishnan, S., Mitatka, S., Carney, T., Myers, B., Coomes, C., Parry, C., Minnis, A., & Wechsberg, W. (2014, July). *Peer-led men's intervention reduces HIV risk among South African men*. Poster presented at the 20th International AIDS Conference, Melbourne, Australia.