RESEARCH SUMMARY

Strengthening STI Treatment and HIV Prevention Services in Carletonville, South Africa

JOHANNES VAN DAM

Outreach coordinator, Yodwa Mzaiduma (standing, fourth woman from right) with peer educators.

Although knowledge about HIV/AIDS is very high in South Africa, adult HIV prevalence is also very high, indicating high levels of risky sexual behavior. Understanding the gap between knowledge and behavior requires an examination of the social context in which the epidemic occurs. The Horizons Program, in collaboration with the Center for Scientific and Industrial Research (CSIR), the South African Institute for Medical Research (SAIMR), and the London School of Economics (LSE) conducted an intervention study in the Carletonville area to study the social determinants of the HIV epidemic and to assess the impact of a targeted program of HIV and STI prevention and service delivery.

In 1998, the Mothusimpilo ("working together for health") Intervention Project (MIP) was launched by the study partners to reduce community prevalence of HIV and other STIs and to sustain those reductions through enhanced prevention and STI treatment services. Carletonville includes many migrant mine workers and is characterized by significant poverty and unemployment, the presence of sex work, and high rates of STIs. To address HIV/AIDS in the entire community, MIP targets population groups where high-risk sexual behavior is thought to be common.

The project is managed by a board that includes representatives from the local, provincial, and national governments; representatives from the Carletonville AIDS Action Committee, a community-based AIDS organization; mining companies; trade unions; and research organizations.

This research summary focuses on study findings about sex workers because of their vulnerability to STIs and HIV infection and their perceived importance within Carletonville's sexual networks, linking miners to men in the broader community.

Research Interventions

Approximately 200,000 people live in the Carletonville area, including about 60,000 miners working in 12 gold mine shafts. Most male mine workers live in single-sex hostels on the mine compounds, around which "hot spots" (places where beer and sex are sold) can be found. The rest of the population lives in the township of Khutsong or the town of Carletonville.

Horizons conducts global operations research to improve HIV/AIDS prevention, care, and support programs. Horizons is implemented by the Population Council in partnership with the International Center for Research on Women (ICRW), the Program for Appropriate Technology in Health (PATH), the International HIV/AIDS Alliance, Tulane University, Family Health International, and Johns Hopkins University.

During the study period, the intervention targeted mainly sex workers and miners, and to a lesser extent youth, groups perceived to be at high risk. The aims were to reduce the prevalence of STIs, increase condom use, and decrease sexual partner change among these groups in the Carletonville area. Three key interventions were implemented that addressed these objectives.

Behavior change communication. The main vehicle of communication is peer education. Since the sex worker peer education program began, more than 200 peer educators have been trained to work with approximately 2,000 sex workers. Typically, the training for peer educators covered community health, personal hygiene, and basic knowledge of signs and symptoms of STIs.

Condom promotion. Promotion and distribution of condoms for STI prevention is an important responsibility of peer educators.

STI management. STI management in public and private health facilities was strengthened by training providers about the syndromic approach and implementation of a periodic presumptive treatment (PPT) program among sex workers. Sex workers who enroll in the program receive one gram of azithromycin once per month. The PPT program does not test for specific STIs but presumes that clients are infected and thus provides treatment for those curable STIs most prevalent in the community. In addition, participants in the program learn about preventive strategies, including condom use. The administration of PPT to sex workers has been facilitated by the use of two mobile clinics that are stationed at various locations around Carletonville. Eight months after the start of the PPT program in February 2000, more than 900 women had enrolled to receive treatment.

Methods

Two community-based surveys were conducted in 1998 and 2001, and a qualitative study investigating sexual networks among sex workers was conducted in 2001. In 1998 and 2001, a random sample of 121 and 101 sex workers, respectively, were interviewed using questionnaires translated into four languages widely spoken in Carletonville. Blood and urine samples were collected from the respondents in both surveys to assess the prevalence of STIs, including HIV infection. Women found to be positive for STIs were referred to the health system for treatment, whereas HIV testing was unlinked and anonymous. The 2001 qualitative study included 24 in-depth interviews and four focus group discussions with sex workers operating in Carletonville and some informal settlements. The recruitment of respondents was done with the assistance of sex worker peer educators.

Characteristics of the Samples

The characteristics of the sex workers in the two samples were found to be similar, suggesting some degree of internal consistency and comparability between the two rounds of data collection. On average, sex workers were in their early thirties, had some education (mostly at a primary level), and spoke Sotho or Xhosa.

In both surveys, women had lived in Carletonville for an average of five to seven years and 40 percent of the women considered themselves migrants. Qualitative data reveal that many sex workers come to Carletonville specifically for employment.

Between the two survey rounds, reported mean income increased by just over 30 percent, from R464 in 1998 to R605 in 2001.[1]

Alcohol use appears to have increased between 1998 and 2001. In 1998, 59 percent of women reported drinking alcohol, which increased to

over 80 percent in 2001. In both surveys, just over a quarter of women reported that they drank every day. The qualitative data indicate alcohol is used to prevent tiredness and to overcome fear, yet it is also associated with unprotected sex.

Respondents were asked about membership in religious and social organizations. Over half (53 percent) of sex workers belonged to one or more social organizations in 1998 and this increased to 69 percent in 2001. In both surveys, the largest percentage of sex workers belonged to church groups (29 percent). In 2001 participation in burial societies decreased significantly from 26 to 11 percent. One possible reason for this decrease is that membership fees increased due to the high numbers of deaths occurring in the area.

Key Findings

Knowledge about HIV protection increased. While knowledge about protective behaviors against HIV infection was already fairly high, between 1998 and 2001 this improved further, likely due to the peer education intervention. For example, in the 1998 survey 88 percent of sex workers said that using condoms during sexual intercourse was protective, and that figure rose to 97 percent in 2001. Staying faithful to one partner was mentioned by 84 percent of sex workers in 2001 versus 90 percent in 1998. Correct knowledge on ways in which HIV is not spread, such as sharing food with an HIV-infected individual, touching a person who is HIV-positive, or using public toilets, each increased substantially by at least 25 percentage points.

Condom use varied depending on the type of partner. From focus group discussions with sex workers, three broad categories of relationships emerged: the spouse, the regular (steady) partner, and the casual partner or client. Many sex workers have steady partners who are not their husbands. These partners are relatively regular clients of the sex workers, are treated as boyfriends, and, as one sex worker noted, are "*different in that I don't sell sex to them, we do not have sex all the time...*"

Partnerships characterized by greater intimacy were found to be the ones in which condoms are used less frequently. Thus, a sex worker who protects herself from infection from casual clients by always using condoms still risks being infected by a more stable steady partner or husband. In 2001 sex workers used condoms con-sistently with 59 percent of their casual partners but with only 12 percent of their regular partners.

Condom use overall did not increase. Despite the peer education program, condom use did not improve between 1998 and 2001. In 1998, 27 percent of sex workers said they never used condoms with casual partners, 14 percent said sometimes, and 59 percent said they always used them. The pattern for 2001 was found to be similar.

STI prevalence declined slightly, although HIV prevalence increased significantly. Although high levels of STIs were found among sex workers during the first survey, data from the 2001 survey indicate a slight decline in prevalence. Rates for several STIs showed a downward trend: syphilis decreased from 25 to 21 percent, gonorrhea from 16 to 10 percent, and chlamydia from 9 to 8 percent, although the differences were not statistically significant. Herpes simplex virus 2 prevalence data were collected in 2001 only, and very high rates were found among sex workers (96 percent). HIV prevalence rates among sex workers increased significantly from 69 percent in 1998 to 78 percent in 2001.

About half the women reported ever having genital discharge or pain in the last 12 months in both surveys, although the number of women reporting these symptoms at the time of the survey decreased from 23 percent in 1998 to 13 percent in 2001. Around 80 percent of the women in both surveys were able to identify genital sores as symptoms of an illness.

Mobile clinic services became very popular. Although most women used hospital services for STI care, the proportion of respondents seeking care from mobile clinic services increased from 5 to 60 percent between 1998 and 2001. In February 2000, MIP began providing two mobile clinics to provide PPT to sex workers, which explains the dramatic increase in use of mobile clinics.

More sex workers took precautions to prevent passing STIs to partners. Though a smaller percentage of sex workers told their regular or casual partners about their last STI

episode in 2001 (67 percent) compared to 1998 (77 percent), there was an increase in the percentage who took precautions to prevent passing the infection to a partner. In 1998, 56 percent took precautions to protect partners from infection, and that increased to 73 percent in the follow up survey. Of the group that took precautions, 90 percent either abstained or used condoms in 1998; this figure increased to 99 percent in 2001.

About half of sex workers surveyed used contraceptives. Both surveys found that around half of the women were using contraceptives, predominantly injectables. Condom use to prevent pregnancy was similar in both surveys: 9 percent in 1998 and 11 percent in 2001.

Some women operate as informal sex workers. The sexual networking study conducted in 2001 revealed the existence of a significant number of women who live in informal settlements and practice sex work informally. Their partners include steady and casual partners of the sex workers targeted by the project. These women do not self-identify as sex workers and have not been systematically targeted by the peer educators or encouraged to enroll in the PPT program.

Alliances between researchers, the private sector, and the community contributed to sustainability. Even though the study formally concluded in October 2001, sex workers in the Carletonville area continue to receive key services aimed at reducing HIV and other STIs. The peer education program continues, and STI case management is available through public, private, and mining clinics. The mining industry has assumed responsibility for the continuation of the PPT program to treat curable STIs among sex workers.

Conclusions and Recommendations

During the observation periods knowledge about STIs and HIV/AIDS among sex workers improved. Rates of STIs, however, declined only slightly while HIV prevalence increased significantly, and behavior change to reduce sexual transmission of HIV infection was limited.

The private-public-community partnership currently supporting and managing the intervention program contributed to both the sustainability and local relevance of the project. However, to have an impact on behavior change and rates of STIs and eventually HIV infection in the community, the intervention needs to be refined, as indicated by the following recommendations:

- Extend the peer education program to reach women who practice sex work informally and do not self-identify as sex workers.
- Address the issue of condom use with regular partners and spouses more directly as part of peer education and condom promotion activities.
- Extend PPT to cover other vulnerable groups in Carletonville, such as informal sex workers, who may be transmitting STIs to others within their sexual networks.

[1]USD = 6.5 Rands in Sept. 1998 and 8.3 Rands in Sept. 2001.

October 2004

The authors would like to acknowledge the contribution of the Mothusimpilo Intervention Project team of Solly Moema, Yodwa Mzaidume and Bareng Rasego. The data collection was conducted by Progressus cc.

For more information, please contact Lewis Ndhlovu (lndhlovu@pcjoburg.org.za) or Catherine Searle (csearle@pcjoburg.org.za).

Suggested citation: Ndhlovu, Lewis, Catherine Searle, and Johannes Van Dam. 2004. "Strengthening STI treatment and HIV prevention services in Carletonville, South Africa," *Horizons Research Summary*. Washington, DC: Population Council.

Horizons

Population Council/Horizons
Communications Unit
4301 Connecticut Avenue, NW
Suite 280
Washington, DC 20008

Population Council

Tel: 202-237-9400
Fax: 202-237-8410
horizons@pcdc.org
www.popcouncil.org/horizons

This publication was made possible through support provided by the Office of HIV-AIDS, U.S. Agency for International Development, under the terms of Award No. HRN-A-00-97-00012-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.