

Intervention effort cuts HIV incidence among female sex workers

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A team of researchers from the University of California San Diego and Mexico has found that even a modest behavioral intervention program averaging just 35 minutes can measurably reduce the incidence of HIV and sexually transmitted infections (STIs) among female sex workers in the U.S.-Mexico border region - and that the program succeeds at comparatively little expense.

The findings will be published online by the journal [PLoS ONE](#) on June 30.

"These are important findings," said Thomas Patterson, PhD, professor of psychiatry in the School of Medicine at UC San Diego. "Too often good research sits on a shelf, unimplemented, because it's thought not to be cost-effective. This study shows that a relatively inexpensive intervention program can significantly affect the incidence of HIV and STIs in a high-risk population."

Using a sophisticated modeling system, researchers studied how a hypothetical group of 1,000 female [sex workers](#) in the U.S.-Mexico border region would respond to a previously tested behavioral intervention program called Mujer Segura or Healthy Woman. Approximately 35 minutes in length, Mujer Segura employs motivational techniques to encourage female sex workers to use safer sex practices, and teaches better condom negotiation skills with clients who request unprotected sex.

"You can't just dwell on the negative. You need to provide positive motivation," said Patterson. "For many of these women, the reason they are sex workers is to make enough money to feed their children. So you don't just point out that HIV kills, but also that taking precautions to avoid [HIV infection](#) means they will live longer and be able to take care of their children."

Earlier research had shown that Mujer Segura was effective in a study of 600 female sex workers in Tijuana and Ciudad Juarez, but questions lingered about comparative affordability. The [financial burden](#) of the worldwide HIV epidemic is huge: More than \$10 billion annually. In Mexico alone, HIV-related costs exceed \$270 million each year, 88 percent of which goes to antiretroviral treatments for patients with active diseases. Could a program like Mujer Segura reduce overall HIV costs by preventing infections in the first place?

Researchers modeled the effect of 1,000 female sex workers receiving Mujer Segura intervention training once, annually and not at all. They found that among sex workers who received once-only interventions, an estimated 33 HIV cases were prevented and 5.7 months of quality-adjusted life expectancy or QALE added, compared to sex workers who received no intervention. For sex workers who received annual interventions, there were 29 additional HIV cases prevented and 4.5 more months of QALE.

"The expense per intervention is less than \$200, which makes it very cost-effective, especially when considering the costs of actually treating HIV cases," said Jose L. Burgos, MD, a project scientist in the division of global public health, department of medicine, at UC San Diego, a faculty member of the medical schools of the Universidad Autonoma de Baja California and the University of Xochiacalco in Tijuana, Mexico. Burgos was also the leader of the study.

The program's value is heightened by its target audience, said Carlos Magis Rodriguez, director of research for Centro para la Prevención y el Control del VIH/SIDA (CENSIDA), the arm of the Mexican Ministry of Health that focuses upon HIV-AIDS issues.

Until relatively recently, HIV was presumed to almost exclusively impact Mexican men having sex with other men. But that is no longer the case. The proportion of female AIDS cases has increased steadily over the years, from 3 percent in 1987 to more than 27 percent in 2008. An estimated 57,000 Mexican women are affected.

The rise in the prevalence of HIV and sexually transmitted infections (STIs) is particularly notable among female sex workers. For example, a 1997 study estimated HIV prevalence among female sex workers in Mexico City at 0.6 percent. In 2006, however the Mujer Segura study of female sex workers in Tijuana and Ciudad Juarez found a prevalence of 6 percent, and 12 percent among those who injected drugs.

"There are factors that make the border region especially problematic," said Patterson. "It's a catchment area for immigrants preparing to cross. It's a place with major drug trafficking routes. This combination of people, sex and drugs really helps fuel the HIV epidemic."

Programs aimed at reducing HIV and STIs among female sex workers are crucial, said Rodriguez at CENSIDA, because they help reduce disease transmission between high-risk groups and the general population in areas with concentrated epidemics. Tijuana and Ciudad Juarez, where UC San Diego researchers have long focused their studies, are obvious target areas because commercial sex work there is quasi-legal and thriving.

But Patterson said intervention programs like Mujer Segura should not be limited to the U.S.-Mexico border. The approach, if altered to reflect

differing cultures, histories and geographical conditions, could work well elsewhere in the world. Indeed, Patterson and colleagues were just funded by the National Institutes of Health to scale up the Mujer Segura intervention across Mexico.

Provided by University of California - San Diego

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