

[Thuong NV, Nghia KV, Hau TP, Long NT, VAN CTB, Duc BH, et al. Impact of a community sexually transmitted infection/HIV intervention project on female sex workers in five border provinces of Vietnam. Sex Transm Infect 2007;83:376-382. No abstract available.](#)

OBJECTIVES: To determine changes in the prevalence of sexually transmitted infections (STIs) and HIV in female sex workers (FSWs) in Vietnam after a community HIV prevention intervention project.

STUDY DESIGN: Pre/post intervention, ecological study in five border provinces. A baseline field survey was conducted from December 2002-January 2003, and a follow-up survey was conducted in December 2004 using similar methodology. FSWs were identified using mapping to identify locations where FSWs were likely to be found. Study participants were classified into two types: direct female sex workers (DFSWs) working from streets, parks, bus stops, boats, ferry piers, brothels, and guest houses; and indirect female sex workers (who do not rely on sex work as their only source of income) selling sex in hotels, restaurants, massage parlors, cafes, karaoke lounges, bars, and barbershops. The sample size at baseline was calculated and then proportionally stratified by the number of estimated FSWs in each district and province estimated from previous mapping. Because a list of FSWs could not be obtained at each site, FSWs were recruited by convenience sampling. Study participants were interviewed about socio-demographic characteristics, sexual behavior, history of STIs, and selected features of their husbands or cohabiting partners. All subjects were offered 2 gm azithromycin to cover possible cervical infections. Using a central lab in Ho Chi Minh City, urine specimens were tested for gonorrhea (GC) and *chlamydia trachomatis* (CT) by polymerase chain reaction (Amplicor, Roche). Tests for syphilis were done on blood specimens using rapid plasma reagin (Bio-Rad) and *Treponema pallidum* hemagglutination assay (Bio-Rad). Positive cases of syphilis were defined by positive reactions in both tests. Herpes simplex virus 2 (HSV-2) antibodies were detected by Test Kit EC 131 (Genzyme Virotech). HIV infection was determined by positive enzyme immunoassay screening (SFD, Bio-Rad in the first survey and Determine, Abbott in the second survey) and two enzyme-linked immunosorbent assays (Abbott and Bio-Rad).

SETTING: Selected districts of five border provinces of Vietnam—Lai Chau in the north, bordering with China; Quang Tri in the center, bordering with Laos; and Dong Thap, An Giang, and Kien Giang in the south, bordering with Cambodia.

PARTICIPANTS: A total of 911 FSWs were enrolled at baseline, and 982 FSWs were enrolled at follow-up. Very few of those asked to participate declined (exact numbers not given).

INTERVENTION: Three main groups of activities were implemented: 1) Behavior change communication activities for host communities and mobile populations: this involved targeted information and advocacy plans to ensure widespread community knowledge of HIV/AIDS in relation to both protection from and living with the infection. FSW peer educators were engaged for HIV prevention activities, and to promote STI-related health-seeking behavior. 2) Condom promotion using social marketing: this was targeted at local populations, using the 100% condom use framework where appropriate to gain the participation of local authorities and those involved in the management and control of sex entertainment services. The process applied commercial marketing skills and techniques for the social good through non-governmental, for-profit channels. This social marketing did not replace the existing free distribution, but was an addition. Condoms were promoted through commercial channels, such as tobacco stalls, coffee or tea shops, pharmacies, beer outlets, hotels, and restaurants. Transport hot spots and construction sites received special attention. 3) Care and management of STI: facilities for STI diagnosis and treatment were strengthened by improving health provider skills through training and provision of STI diagnostic equipment. Demand was also strengthened, and social barriers to using STI services reduced. Innovative services were designed to provide user-friendly STI care services at the province level. Each province set up mobile teams to deliver STI care in settings that FSWs were comfortable with, including their place of work. Further details can be found on the project website [http:// www.jfpr-hiv.org](http://www.jfpr-hiv.org).

PRIMARY OUTCOMES: 1) Social, demographical, and sexual behaviors among FSWs and their partners; 2) prevalence of HIV and STI infections before and after intervention.

RESULTS: The results of the baseline survey are reported elsewhere.ⁱ In the 2004 survey, >93% of participants were Kinh ethnicity, almost 60% were aged 20-29 years, and >50% had an average income of 1.2 million Vietnam dong per month (US\$80). More than 50% of the study participants had a primary school (grade 1- 5) education or were illiterate. In general, <1% of FSWs ever worked outside Vietnam; however, in An Giang, 1.8% of FSWs reported ever working in Cambodia. In all, 16.5% of FSWs were cohabiting. The mean age of sexual debut was 18.7 years. The median number of clients per week was four. Condom use of 100% in the last month with clients, non-paying regular partners, and husbands/live-in partners was 52.8%, 43.3%, and 35.3%, respectively. Approximately 46% of participants were DFSWs. In comparing demographic characteristics from the 2002 and 2004 surveys, significant differences were found in age, number living alone, educational attainment, duration of sex work, income, number of clients, ever worked outside Vietnam, ever injected drugs and having a non-paying regular partner. Additionally, the rate of condom use with any sexual partner increased significantly (OR=1.35, 95% CI 1.12 to 1.63, p=0.002 with clients; OR=2.93, 95% CI 1.97 to 4.41, p<0.001 for non-paying regular partner; OR=5.33, 95% CI 3.13 to 9.30, p<0.001 with husband/live-in partner). In the follow-up survey, the overall prevalence rates of HIV, syphilis, herpes simplex virus 2 (HSV-2) antibodies, GC, CT, and GC and/or CT among FSWs in the five border provinces in 2004 were 3.6%, 12.9%, 24.9%, 2.9%, 9.1%, and 11.3%, respectively. Compared with baseline values, GC and/or CT decreased significantly from 19.9% to 11.3% (p<0.001), GC from 10.7% to 2.9% (p<0.001), and CT from 11.9% to 9.1% (p=0.04). HIV decreased from 4.5% to 3.6%, and HSV-2 antibodies from 27.7% to 24.9%, but neither trend was statistically significant (p=0.303 and p=0.175, respectively). Syphilis increased from 10.7% to 12.9%, but not significantly (p=0.154). After adjustment for possible confounders, a significant overall decrease in having GC and/or CT (OR=0.46, 95% CI 0.33 to 0.65; p<0.001) and GC alone (OR=0.22, 95% CI 0.13 to 0.37; p=0.001) was found, and the overall prevalence of syphilis increased significantly (OR = 1.55, 95% CI 1.11 to 2.17 p = 0.011). There were no significant changes in CT alone, HIV, or HSV-2. A marked increase in syphilis from 1.0% to 14.1% was identified in the Lai Chau province.

CONCLUSIONS: The authors conclude that implementation of the project was associated with a reduction in GC and/or CT infections in FSWs, more so with GC than with CT. A notable increase in syphilis in Lai Chau was identified. HIV/STI interventions in FSWs can be implemented by government services and should be intensified and expanded to other provinces.

QUALITY RATING: There is no quality scale for a pre/post-intervention design of this type. In the absence of control groups, it is difficult to ascribe the reduction in GC and/or CT directly to the intervention. There were also significant differences in the baseline and follow-up survey populations, and there is no way to know if survey participants had received all or part of the intervention. Moreover, the provinces employed different methods in routine identification and treatment of STIs. Additionally, the baseline survey may have accounted for some of the beneficial effects identified: all FSWs enrolled were offered treatment with azithromycin, and the process of participation in the interview and questionnaire may have accounted for behavioral change that was not measured directly. Significant differences in both demographical and behavioral risk factors between the two surveys could indicate (1) changing patterns of sex work, (2) changes in mobility or (3) the consequence of the health education and HIV prevention components of the intervention, or a combination of all three.

IN CONTEXT: High prevalence of STIs have been implicated in the spread of HIV in some Asian countries,ⁱⁱ and successful STI prevention programs have had a major effect in reducing the spread of HIV in Thailand and Cambodia.ⁱⁱⁱ HIV prevention programs targeted at female sex workers (FSWs) are therefore justified, and are one of the most cost-effective interventions identified.^{iv}

PROGRAMMATIC IMPLICATIONS: Results of this study indicate that this sort of community-based intervention may be promising in reducing rates of STI and HIV in FSWs. However, because of limitations in the study design, the lowering of GC and CT rates may not be due to the intervention itself. More research on this type of intervention is needed, with a more rigorous study design. The prevalence for HSV-2 antibodies is relatively low compared with Africa and is encouraging, given the role of this infection in facilitating HIV transmission. However, the increase in syphilis is concerning and may reflect commercial sex networks close to China, where syphilis

has recently increased dramatically. Further intensive surveillance, interventions, and treatment are therefore warranted.

References for this summary:

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