

THE UALE PROJECT: DECLINE IN THE INCIDENCE OF HIV AND SEXUALLY TRANSMITTED INFECTIONS AND INCREASE IN THE USE OF CONDOMS AMONG SEX WORKERS, GUATEMALA*

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Objectives

To assess the impact of a multilevel sexually transmitted infections (STI)/HIV prevention and treatment intervention on the incidence of STIs and HIV, the use of condoms, and HIV knowledge among sex workers (SWs).

Methods

An open-enrolment cohort of 1554 SWs attending STI clinics integrated within the primary health care system in Escuintla, Guatemala. They were offered 6-monthly STI/HIV screening, condom promotion, education, and community-based interventions. We evaluated trends in condom use, HIV-related knowledge, and STI/HIV incidence using generalised estimating equations.

Results

For over three and a half years, 1554 SWs were attended at least once and 47.39% were lost to the first follow-up visit. Baseline characteristics are shown in table 1.

There was a significant increase in the proportion of consistent condom use from the baseline visit through the third follow-up visit (94.29%–99.11% with new clients and 90.36%–97.22% with regular clients) and in HIV-related knowledge (95.99%–97.22%) (table 2).

Except for syphilis, we observed a significant decline in gonorrhoea, chlamydia, trichomoniasis, and candidiasis in each follow-up visit, from 11.30 per 100 person-years, 10.71 per 100 person-years, 6.88 per 100 person-years, and 8.23 per 100 person-years in the first follow-up visit to 6.44 per 100 person-years, 6.21 per 100 person-years, 4.81 per 100 person-years, and 6.17 per 100 person-years in the third follow-up visit, for each STI, respectively (table 3).

HIV global incidence was 0.41 per 100 person-years, and it significantly declined from 1.85 per 100 person-years (2005) to 0.42 per 100 person-years (2008).

Table 1. Baseline sociodemographic characteristics, sexual behaviour and HIV-related knowledge of 1554 SWs attending the STI clinics in Escuintla, Guatemala, from March 2005 to September 2008

	All women (n=1554)	SWs with < 3 follow-up visits ^β (n=968)	SWs with ≥ 3 follow-up visits (n=293)	p-value ^γ
Age in years (mean, SD)	29.07(0.25)	29.06(0.27)	29.16(0.36)	0.071
Age at first sex in years (mean, SD)	14.98(0.10)	14.99(0.09)	15.06(0.12)	0.092
Number of clients in the past week (mean, SD)	9.56(0.41)	8.61(0.32)	9.76(0.44)	0.042
Having regular clients ^α	33.55%	33.04%	33.96%	0.043
Having regular partner	30.69%	30.41%	33.11%	0.012
Having an occasional partner in the last 6 months (m) ^α	94.72%	92.30%	98.11%	<0.001
Condom use with new clients at last sexual intercourse	91.33%	90.90%	95.81%	<0.001
Condom use with regular clients at last sexual intercourse ^α	92.49%	92.15%	92.55%	0.034
Condom use with regular partner at last sexual intercourse ^α	26.29%	35.18%	24.14%	0.002
Identifies condom use as an HIV preventive measure	87.00%	82.22%	87.19%	<0.001
Identifies mother-to-child transmission of HIV	27.54%	21.80%	24.80%	0.032

^α Total number are small since these variables were included from June 2008 ^β Excluding women without sufficient follow-up time to undertake three follow-up visits. ^γ p value < 0.05=statistically significant

Table 2. Changes in sexual behaviour and HIV-related knowledge among SWs attending the STI clinics in Escuintla, Guatemala, over 3 follow-up rounds

Visit	No. of SWs	Consistent condom use in the last 6 months			Knowledge about HIV prevention and transmission	
		New clients,%	Regular clients,%	Regular partner,%	Condom use,%	Mother-to-child transmission,%
Baseline visit	1554	94.29	90.36	38.22	87.00	27.54
First follow-up	741	98.89	96.84	39.22	95.99	30.21
Second follow-up	445	99.11	96.33	31.32	96.28	41.32
Third follow-up	293	99.11	97.22	33.30	97.22	49.40
p-value for trend	—	0.012	0.035	0.078	0.008	0.007

Table 3. STI Incidence over 3 follow-up rounds among 1554 SWs attending the STI clinics in Escuintla, Guatemala

Visit	<i>Neisseria gonorrhoeae</i>		<i>Chlamydia trachomatis</i>		<i>Trichomona vaginalis</i>		Active syphilis ^α		<i>Candida Albicans</i> ^α	
	IR (100PY)	RR(95% CI)	IR (100PY)	RR(95% CI)	IR (100PY)	RR(95% CI)	IR (100PY)	RR(95% CI)	IR (100PY)	RR(95% CI)
First follow-up	11.30	1	10.71	1	6.88	1	11.97	1	8.23	1
Second follow-up	6.55	0.58 (0.37-0.92)	7.17	0.67(0.42-1.07)	6.54	0.95(0.42-1.15)	13.04	1.09(0.68-1.64)	6.34	0.77(0.43-1.38)
Third follow-up	6.44	0.57 (0.33-0.97)	6.21	0.58(0.33-1.01)	4.81	0.70(0.56-1.61)	8.61	0.72(0.37-1.41)	6.17	0.75(0.45-1.26)
p-value for trend ^β	0.021	—	0.018	—	0.032	—	0.092	—	0.023	—

CI: confidence interval; IR: incidence rate, RR: relative risk, (both corresponding to the change from one 6-month follow-up visit to the next); PY: person year, ^α Both VDRL and TPHA with positive results. ^β Indicating the trends by using generalised estimating equations.

Conclusions

The results suggest that regular STI/HIV screening and treatment combined with condom promotion and sexual risk prevention is effective in reducing HIV and STI acquisition and in increasing condom use with clients and HIV-related knowledge. Although a better assessment of the intervention will require a longer study period, this first evaluation has proven that the intervention is feasible and well accepted by local health authorities, health care workers, SWs, and the owners of the commercial sex establishments.

