

Knowledge, attitudes, beliefs and practices regarding sexually transmitted infections in rural Philippines

Sir: Transmission of HIV and sexually transmitted infections (STIs) is on the rise throughout the developing world, particularly in Asia¹. Prevention and treatment of STIs can prevent morbid complications, and researchers have shown that treating patients with STIs can reduce HIV transmission^{2,3}. Education programmes are an important means for decreasing the spread of STIs, especially in communities with limited resources. In the Philippines, STI prevalence and knowledge of STIs have not been well quantified outside populations of commercial sex workers, where there are high rates of infection⁴.

Surveys evaluating knowledge, attitudes, beliefs and practices (KABP) are useful not only to identify groups at risk for STIs, but also to design and evaluate prevention interventions. We undertook a KABP study in the rural developing province of Guimaras, Philippines because the prevalence of STIs was thought to be low, setting the stage for prevention programmes to be developed before STIs and HIV become a more significant problem.

During October 1997, we conducted a survey of patients at 2 rural clinics and the provincial hospital. Trained nurses recruited a convenience sample of patients between 18 and 60 years of age and administered a questionnaire measuring KABP about STIs. The nurses conducted anonymous and private interviews in the local dialect after participants gave verbal consent.

For the statistical analysis, descriptive frequencies were produced using Epi-Info 6.0 software. We compared categorical and continuous variables using Chi-square and *t*-tests. We used Fisher's exact test for contingency tables with cells smaller than 5.

Of the total 318 study participants, 222 (70%) were women and 96 (30%) were men. Men were slightly younger than women (mean age 31 vs 33 years $P < 0.01$), more likely to be single ($P < 0.01$), and more likely to have completed high school ($P < 0.001$). Significantly more women were sexually active (93% vs 74% $P < 0.001$). Table 1 shows the respondents' reported sexual behaviour and STI history by gender. Table 2 shows knowledge and attitudes of transmission, STI consequences, and prevention by level of education.

This study demonstrates the low level of knowledge and modest level of risk among a convenience sample of persons attending public clinics in rural Philippines. The people of Guimaras, Philippines face a growing risk for the spread of STIs. While STIs exist in low numbers in Guimaras, local residents report risky behaviours such as non-monogamous sexual relationships and lack of condom use and have inadequate general knowledge about STIs. Guimaras, like many developing areas is entering a new era of expansion with current plans for a road bridge to a nearby city, a

Table 1. Behavioural characteristics of sexually-active respondents (n=277), Guimaras Province, Philippines 1997

	Male (%)	Female (%)	P value
> One sex partner (last 2 months)	12	0	<0.01
Same sex partner (last 2 months)	3	0	<0.001
Ever visited CSW	24	NA	
STI lifetime prevalence	10	3	<0.05
STI 5 year prevalence	6	2	<0.01
Ever used STI prevention	14	26	<0.052
If yes:			
100% condom use	1	0	<1.00
Genital washing	0	18	<0.01
Birth control pills	0	2	<0.50
Douche	0	2	<0.50
100% condom use with CSW (n=24)	75	NA	

CSW=commercial sex worker; STI=sexually transmitted infection

Table 2. Percentage of respondents agreeing to statement by level of education (n=290), Guimaras Province, Philippines 1997

	Some college (n=71) (%)	No college (n=219) (%)	P value
Transmission			
Holding hands does not transmit STIs	79	55	<0.001
Having sex without a condom transmits STIs	83	76	<0.30
A mosquito bite cannot transmit STIs	38	24	<0.05
Sitting next to a person cannot transmit STIs	55	46	<0.30
Complications			
Infertility is a complication of STIs	63	50	<0.05
Increased risk of HIV/AIDS is a complication of STIs	93	75	<0.01
Prevention			
Birth control pills do not prevent STIs	65	42	<0.01
Condom use prevents STIs	76	62	<0.05
Taking antibiotics before sex does not prevent STIs	38	28	<0.20

regional airport and new resorts. Development may bring an increase in the number of contacts with outsiders and individuals with STIs. The residents' poor understanding of STIs and risk

behaviours may increase their vulnerability to this influx of STIs.

Although the majority of the surveyed population was sexually active, significantly more men had a history of STIs than women. Men visiting sex workers are likely to serve as a bridge population, transmitting STIs to women in the Guimaras province with whom they have more long-term sexual relationships⁵.

Our data indicate that both men and women in Guimaras have limited knowledge of STIs and misperceptions. Some misperceptions were correlated with the level of education, indicating that education could play a role in reducing vulnerability to STIs. STI education should use mass media to reach the general population. In schools, although all students may not be sexually active, when they are given instructional information, they would likely be better prepared to prevent STIs effectively when they do eventually become sexually active.

Lastly, the healthcare sector can play an important role in STI prevention. While our study population can access healthcare, they are not receiving adequate information regarding prevention. Clinics can provide both passive methods such as posters and pamphlets and active interventions such as group discussions and counselling. Additionally, the public healthcare system in Guimaras has a strong system of volunteer outreach workers who do family planning education which could be expanded to include STI prevention methods.

While the findings from this study were confirmed by qualitative reports, our survey may have been biased by the respondents' tendency to give socially desirable answers. Also, few studies have been undertaken in populations where STI prevalence is low and socioeconomic development is only anticipated. Thus, it is difficult to compare our data with similar data from other communities. The goal of this type of study is to assess baseline attitudes and risks before development continues, in order to measure the effectiveness of future prevention efforts.

Guimaras Province is at risk for increased transmission of STIs. On-going development will bring the once rural population closer to urban centres and increase population mobility. In the short-term, Guimaras should prioritize educating sexually-active adults, especially men who visit commercial sex workers. The general population also needs greater education regarding STIs since their current knowledge is inadequate to protect them from likely increases in STI transmission in the future. Beyond the municipal primary-care clinics, other community access points may serve as effective information sources, such as schools and mass media programmes.

Acknowledgements: The authors would like to thank the Stanford Travelling Scholars Program, Professor Julie Parsonnet, Save the Children USA, and the Guimaras Provincial Authorities for their sponsorship and assistance in this study.

Anne Reese BA¹

Gita Sinha BS¹

Gail Bolan MD²

Jeffrey D Klausner MD MPH²

¹Stanford University Medical School

²San Francisco Department of Public Health
STD Prevention and Control Services, USA

References

- 1 Gerbase AC, Rowley JT, Mertens TE. Global epidemiology of sexually transmitted diseases. *Lancet* 1998;351(suppl III):2-4
- 2 Grosskurth H, Mosha F, Todd J, *et al*. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: randomized controlled trials. *Lancet* 1995;346:530-6
- 3 Cohen MS. Sexually transmitted diseases enhance HIV transmission; no longer a hypothesis. *Lancet* 1998;351(suppl III):5-7
- 4 Monzon OT, Santana RT, Paladin FJ, Bautista A, Fajutagana L, Eugenio S. Prevalence of sexually transmitted diseases (STDs) and human immunodeficiency virus (HIV) infection among Filipino sex workers. *Philippine J Microbiol Infect Dis* 1991;20:41-4
- 5 Morris M, Pochista C, Wawer MJ, Handcock MS. Bridge populations in the spread of HIV/AIDS in Thailand. *AIDS* 1996;11:1265-71

Forthcoming e
sexually trans

Organizers:
abstract deadli
Infirmiry, Gla
Information

14-15 April 2000

Sexually Transm

Venue: Rotterda

Registration: Du

Abstract deadli

Contact: Medisc

PO Box 113, 566

Tel: +31 (0)40 2

Fax: +31 (0)40 2

E-mail: MEDISCO

28-30 April 2000

20th Scientific C

Polish Society

Clinical Aspects

Venue: Bialysto

Registration: U

after 10 Februar

Abstract deadli

Contact: Dept

Rocha 3, 15-879

Tel/Fax: (085) 7

E-mail: bozcho

3-7 May 2000

Joint Medical S

(MSSVD) and A

Venue: Baltimo

Abstract deadli

Contact: MSSV

W1M 8AE, UK

Tel: +44 (0) 207

E-mail: mssvd@

21-24 June 2000

Australasian Sex

Venue: Darwin

Registration: A

26 April 2000

Abstract deadli

Contact: Chris

Associates, PO

Tel: +61 2 9418

Fax: +61 2 9418

E-mail: dartcon

24-27 June 2000

International Co

Germany

Venue: Berlin,

Contact: Congr

Shirley Corley,

NSW 2066, Au

Tel: +49 30 204

Fax: +49 30 204