

Cross-sectional study of sexual behaviour and knowledge about HIV among urban, rural, and minority residents in Viet Nam

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Objective A cross-sectional survey was conducted in three districts of Quang Ninh province, Viet Nam, to find out what proportion of the people who lived there engaged in behaviour that put them at risk of becoming infected with HIV, and to measure their knowledge about HIV infection and AIDS.

Methods The survey was conducted in a rural district, Yen Hung; a mountainous district inhabited primarily by ethnic minority groups, Binh Lieu; and an urban district, Ha Long. Participants aged 15–45 years were randomly selected from the general population to be interviewed.

Findings A total of 630 people from 707 households were interviewed; 8% were not home despite repeated visits and 3% refused to participate. The prevalence of premarital intercourse ranged from 9% to 16% among married men and 4% to 7% among married women. Among single men the proportion who had ever had intercourse ranged from 6% to 16%. Fewer than 3% reported having ever had sex with a sex worker. The median number of extramarital sex partners was 1. Knowledge about HIV/AIDS was high in the urban and rural areas but low in the mountainous area. Being male and being 20–29 years old were associated with having multiple sex partners.

Conclusion The low prevalence of individuals reporting that they had had intercourse with sex workers and partners other than their spouse may explain the low rates of HIV infection among the heterosexual population; these rates are in contrast to the high rates of HIV infection found among injecting drug users. The association between having extramarital partners and being a younger man suggests that the tendency to have more sexual partners may increase in the future. If this happens, the potential for HIV to be spread through heterosexual sex will increase.

Keywords: HIV infections, etiology; acquired immunodeficiency syndrome, etiology; sex behavior; knowledge, attitudes, practice; substance abuse, epidemiology; cross-sectional studies; Viet Nam.

Mots clés: infections à VIH, étiologie; SIDA, étiologie; comportement sexuel; connaissance, attitude, pratique; toxicomanie, épidémiologie; enquêtes transversales; Viet Nam.

Palabras clave: infecciones por VIH, etiología; síndrome de inmunodeficiencia adquirida, etiología; conducta sexual; conocimientos, actitudes y práctica; abuso de sustancias, epidemiología; estudios transversales; Viet Nam.

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Voir page 20 le résumé en français. En la página 20 figura un resumen en español.

Introduction

Viet Nam, with an estimated population of 77 million, has about 60 ethnic groups; many of these groups live in mountainous areas. Since 1988, tourism has increased, and there has been a concomitant rapid rise in the number of massage

parlours, sex workers, and drug users. This growth has resulted in an increase in the number of people infected with sexually transmitted diseases (STDs) and HIV and cases of AIDS (1).

Since the first case of HIV was reported in 1990, the incidence of people infected with HIV rose steadily from 11 per year in 1992 to 2254 in 1997. The

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cumulative number had risen to 8708 by June 1998. There are people infected with HIV in 57 of the 61 provinces in Viet Nam. Surveillance indicated that HIV infection occurred mainly among injecting drug users (67% of the 8708 known HIV-infected individuals). Rates of HIV infection among commercial sex workers have remained low (2). In late 1996 and early 1997, there were epidemics among injecting drug users in the northern provinces of Lang Son and Quang Ninh, both of which border China. In Quang Ninh province HIV infection was reported in 10% of those tested in March, in 21% in May, in 26% in June, and in more than 40% in July 1997. In 1997, a total of 573 people were identified as being HIV-positive in Quang Ninh. In just 1 year Quang Ninh province had become the area with the second highest prevalence of HIV in Viet Nam (3, 4). Quang Ninh province was selected as a target area for a rapid survey on knowledge about HIV/AIDS and behaviour that put people at risk of becoming infected in urban and rural areas and those inhabited mainly by minority ethnic groups.

The specific objectives of the study were: to determine the prevalence of sexual activities that place people at high risk for becoming infected with HIV; to assess knowledge about HIV; to determine the primary sources of information about HIV; and to measure the prevalence of drug abuse.

Methods

Study area

Quang Ninh province is located in the mountainous north-east of Viet Nam, bordering China and the "Golden Triangle" of South-East Asia, a centre of drug use and HIV infection. The province has a total population of 962 800 (4). Drug use and prostitution have increased rapidly in the area during the past several years. Since 1988, Quang Ninh has also become one of the three biggest harbours for foreign trade, resulting in a rapid increase in the number of hotels, restaurants, steam baths, massage parlours, prostitutes, and drug users. By 1996, a total of 2080 injecting drug users, 500 prostitutes, and 969 cases of sexually transmitted diseases had been reported by the Department of Social Affairs (5). In late 1996 and early 1997, 573 individuals infected with HIV had been identified: 68% were injecting drug users, 11% had attended an STD clinic, 7% had tuberculosis, <1% were prostitutes, <1% had been blood donors, <1% were military recruits, and 14% fell into other categories. Because of the rapid rise in the number of HIV-infected individuals, the Ministry of Health decided to conduct a survey in three representative areas of the province: one rural district (Yen Hung), one primarily mountainous district that is home to minority communities (Binh Lieu), and one urban district (Ha Long).

In each of the three representative districts, a two-stage sampling method was used to select communes and participants. In the first stage, C

survey software was used to select study clusters from a list of all clusters using probability proportionate to size (PPS) (6). Thirty clusters from each area were selected: from the 139 sub-communes in Yen Hung rural district, from the 147 sub-communes in Ha Long urban town, and from the 87 sub-communes in the mountainous Binh Lieu district. In the second stage, all households in each selected commune were numbered and mapped, and seven households in each commune were selected using the random number table created by the software.

Study population, interviewer training, and participant selection

Residents aged 15–45 years old were identified as the target population for the study because they are the most sexually active and most likely to be using drugs. The name of each participant in the appropriate age group in each household was written on a small piece of paper by the interviewer. One piece of paper was then picked blindly by a member of the household. Participants and interviewers were of the same sex.

Three field teams were established. Each team included one local public health worker, one trained female interviewer, and one trained male interviewer. The interviewers were physicians recruited from the Quang Ninh Center for Preventive Medicine. A two-day training course was held; team members were trained in randomly selecting participants, introducing themselves, administering the questionnaire, using tape recorders, and interviewing.

The interview was conducted anonymously and privately. Questionnaires and samples were identified only by number. If the participant was not at home after two visits or refused to participate, a house next to the selected home was visited to select a substitute participant. The field teams were observed during a one-day study to ensure that they understood the procedures. The study was conducted between 27 February and 20 April 1998.

The free and informed consent of all subjects was obtained. All research was conducted in full accord with ethical principles, including the provisions of the Declaration of Helsinki (as amended by the 48th General Assembly, Somerset West, South Africa) and was reviewed and approved by the University of California, Los Angeles, Office for Protection of Research Subjects; the Scientific Research Board of the National Institute of Hygiene and Epidemiology, Hanoi, Viet Nam; and the US National Institutes for Health Office for Protection from Research Risks.

Data collection

Each potential participant was given an information sheet to read before deciding whether to participate. The questionnaire was administered in two parts. The first part was administered by the interviewers; they collected information considered to be less sensitive, such as information on sociodemographic characteristics, use of public or private health services, sources of information, and knowledge of STDs and HIV.

The second part of the questionnaire was self-administered and consisted of an audio tape containing 25 questions on sexual practices, condom use, number of sexual partners, injecting drug use, needle sharing, and history of STDs. Questions were recorded in the local dialect (7). Separate tapes were used for married and single respondents. The participant was trained to use the tape recorder and earphones. Each question and the alternative responses were given on the tape recorder. Participants recorded their responses, either a yes or a no or a number, on an answer sheet that contained only the numbers of the questions and an identification number. The interviewer recorded the responses of illiterate participants.

Data analysis

SAS software was used to obtain chi square (χ^2) values, P values, and odds ratios. For knowledge of HIV, if the participant did not know an answer, the response was coded as an incorrect answer. Knowledge of HIV/AIDS was scored and analysed in two different ways. Firstly, the proportion of respondents who answered at least 11 of 14 questions correctly was found. Secondly, the scores on answers to questions about having unprotected sex, sharing needles, and receiving infected blood were summed. Risky behavioural practices were considered to include having had extramarital sexual partners, having had sexual relations with someone who may have had multiple sexual partners, having had sex with sex workers, and injecting drugs. All variables were included in the logistic regression model to identify independent predictors of risky behavioural practices. The stepwise procedure was used to identify significant variables to adjust for a lack of independence between variables.

Results

A total of 707 households were visited: 235 in Binh Lieu, 239 in Yen Hung, and 233 in Ha Long. From these households, 630 (89%) of the selected participants were interviewed; 57 (8%, 37 men, 20 women) were not at home and 20 (3%, 13 men, 7 women) refused to participate. Of those interviewed, 319 were men and 311 were women. The response rate ranged from 88% to 94% except among men in Yen Hung (82%), many of whom were not at home. Refusal rates ranged from 5% among men in the urban district of Ha Long to 1% among women in Binh Lieu, the mountainous district that is home to many minority ethnic groups.

The demographic characteristics of the respondents are given in Table 1. Except in Binh Lieu, more females than males were interviewed. The overwhelming majority of respondents in Yen Hung and Ha Long were ethnically Vietnamese (Kinh), whereas the majority of respondents in Binh Lieu were ethnically members of the hill tribes (Tay, Dao, and San Chi). The level of education in Binh Lieu was

Table 1. Demographic characteristics of respondents

Characteristics	Binh Lieu (n = 210)		Yen Hung (n = 210)		Ha Long (n = 210)	
	No.	%	No.	%	No.	%
Sex						
Male	121	58	97	46	101	48
Female	89	42	113	54	109	52
Ethnicity						
Tay	111	53	0	–	0	–
Dao	51	24	0	–	0	–
San Chi	45	21	5	3	1	<1
Kinh (ethnically Vietnamese)	3	1	205	98	209	99
Highest grade of education completed						
No education	55	26	6	3	0	–
1 – <6	87	41	51	24	5	2
≥6 – <9	54	26	103	49	82	39
≥10 – <12	11	5	42	20	79	38
≥12	3	1	8	4	44	21
Years lived in district						
>5	9	4	15	7	30	14
≥5 – <15	33	16	35	17	50	24
≥15	168	80	160	76	130	62
Marital status						
Married	159	76	157	75	128	61
Widowed or separated	1	1	4	2	8	4
Single	50	24	49	23	74	35
Income (Dong)^a						
<100 000	114	54	42	20	11	5
100 000–400 000	87	41	114	54	95	45
500 000–1 000 000	9	4	43	21	76	36
>1 000 000	0	–	11	5	28	13

^a Conversion rate: US\$ 1 = 12 500 Dong.

considerably lower than in the other two districts. In Binh Lieu 67% of the respondents had had less than 6 years of education and, therefore, could not read and write in Vietnamese. The majority of the respondents in all three districts had lived in their areas for more than 5 years. Three-quarters of the respondents in the two rural areas were married, compared with 61% of respondents in Ha Long. Altogether, 114 of 210 (54%) respondents in Binh Lieu were classed as having a low income (<100 000 dong/month, about US\$ 8); this was twice as high as in Yen Hung (42/210; 20%) and 10 times as high as in Ha Long (11/210; 5%). Thus, although Yen Hung and Binh Lieu were both rural districts, the respondents in Binh Lieu had lower incomes, were less likely to be ethnically Vietnamese, and less likely to be literate.

Respondents in Binh Lieu were about 1–2 years younger than in the other two districts, were 2–6 years younger when they married, and 2–4 years younger when they first had sexual intercourse (Table 2). In all three districts the mean age at first

Table 2. Age at interview, marriage, and first sexual intercourse

Ages and proportions	Binh Lieu (n = 210)		Yen Hung (n = 210)		Ha Long (n = 210)	
	Men	Women	Men	Women	Men	Women
Mean (SD) age (years) at interview	29 ± 8.5	29 ± 9.1	30 ± 8.8	31 ± 8.4	31 ± 9.2	30 ± 8.7
Mean (SD) age (years) at marriage	21 ± 3.4	20 ± 2.8	25 ± 3.4	22 ± 3.0	27 ± 3.5	23 ± 2.7
Mean (SD) age (years) at first sexual intercourse	21 ± 3.1	20 ± 3.0	24 ± 3.3	22 ± 3.0	25 ± 3.9	23 ± 2.6
Proportion married reporting first sexual intercourse occurred before marriage	16%	4%	9%	4%	11%	7%
Proportion of single respondents reporting that they had ever had sexual intercourse	8%	0%	6%	0%	16%	1%

sexual intercourse was <2 years younger than the mean age at marriage. The proportion of married men who reported having had sexual intercourse before marriage was 16% in Binh Lieu, 9% in Yen Hung, and 11% in Ha Long. Among women, the proportions were 4%, 4%, and 7%, respectively. The proportion of single men who reported ever having had sexual intercourse ranged from 6% to 16% and was highest in Ha Long. Only one single female in Ha Long admitted to having had sexual intercourse.

The proportion of respondents in Yen Hung and Ha Long who had heard of HIV/AIDS was more than 90%, but it was only 61% in Binh Lieu. In Binh Lieu, even among those who reported having heard about HIV/AIDS, the proportion answering 11 of the 14 questions on HIV/AIDS correctly (22%), and the proportion who knew about the three modes of transmission (37%) was much lower than in Yen Hung (62% and 83% respectively) and Ha Long (82% and 89% respectively).

The most common reported source of information on HIV/AIDS was television (90% in Ha Long, 80% in Yen Hung, and 48% in Binh Lieu) and radio (42%, 38%, and 48% respectively). Posters, friends, hospitals, and newspapers were relatively infrequent sources of information.

The distribution of behavioural risk factors in the three districts is shown in Table 3. The proportion of respondents who had sexual intercourse for the first time when they were younger than 20 years old and who got married when they were younger than 20 was much higher in Binh Lieu (36% and 35%) than in Yen Hung (10% and 8%) and Ha Long (8% and 6%). On the other hand, the proportion of single respondents who had a regular sexual partner was 2.5 times higher in Ha Long (24%) and almost twice as high in Yen Hung (18%) as in Binh Lieu (10%). The proportion of married respondents who had had

more than one sexual partner ranged from 15% in Ha Long to 12% in Binh Lieu; among single respondents proportions ranged from 11% in Ha Long to 2% in Binh Lieu. The proportion who had had sex with someone other than their regular sexual partner in the last 6 months was low in all three districts (3–4%). The proportion who had had sexual intercourse with a partner who they thought had had multiple partners was similar between groups (8–9%). The proportion who admitted to ever having had sexual intercourse with a sex worker was low, ranging from 1% in Binh Lieu to 3% in Ha Long. The proportion who had paid for sex ranged from 1% in Binh Lieu to 3% in Ha Long. Only 1–2% of respondents reported having been paid to provide sex. The median number of extramarital or non-regular partners was 1. Thus, it was not common for respondents to change their sexual partners frequently.

In Binh Lieu, 7% of respondents reported that they used a condom most of the time they had had sexual intercourse, as had 16% of those in Yen Hung and 21% in Ha Long. More respondents in Ha Long knew that condoms could prevent sexually transmitted diseases (69%) than in Yen Hung (58%) and Binh Lieu (40%).

The proportion who reported that they had ever used recreational drugs ranged from a low of 1% in Binh Lieu to a high of 3% in Ha Long. Opium and heroin were the preferred drugs among the few who used drugs. Only eight respondents reported injecting drugs.

The frequency of premarital sex, extramarital sex, and drug use was generally highest in Ha Long, the urban area, and lowest in Binh Lieu, the mountainous, minority-populated rural area, but was relatively low in all areas.

Logistic regression analysis of factors associated with having had more than one sex partner in a lifetime showed that there was a significant relation with being male (odds ratio [OR] = 2.8 (95% confidence interval [CI] = 1.6–4.7)) and being either 20–24 years of age (OR = 4.0 (95% CI = 1.6–10.3)) or 25–29 years of age (OR = 2.0 (95% CI = 1.2–7.5)). Having a partner who had multiple partners was associated only with either being 20–24 years of age (OR = 9.2 (95% CI = 2.6–32.9)) or 25–29 years of age (OR = 5.6 (95% CI = 1.5–20.1)). Despite the fact that they had been having sex for a shorter amount of time, younger men reported having more sexual partners than older men, which suggests that sexual behaviour has changed in recent years.

Discussion

Surveys of sexual behaviour are always subject to presentation bias (that is, participants giving socially desirable responses rather than truthful ones). The use of a tape recorder and earphones to ask sensitive questions and a blank answer sheet on which to record answers as only yes or no or a number should have reduced the frequency of untruthful answers by

reassuring respondents that their answers were anonymous. None the less, there was probably at least some presentation bias. Thus, the prevalence of sexual activities and drug use reported here should be considered to be minimums. It is likely, however, that the use of the tape recorder and earphones also contributed to the low refusal rate of 3%. A similarly low refusal rate has been observed in previous surveys using a tape recorder and earphones to ask sensitive questions (7).

The prevalence of premarital intercourse was highest (16%) in the mountainous area populated mainly by minorities, Binh Lieu. However, the prevalence of single men reporting that they had ever had intercourse was highest (16%) and the median age of marriage latest (27 years) in the urban area, Ha Long, suggesting that men in urban areas are at greater risk of acquiring HIV through sex. The higher odds ratios found among younger men for ever having had more than one sex partner suggest that it is becoming more common to have more than one sexual partner among the younger generation; this is a cause for some concern. Despite the higher level of risk factors found in the urban area, Ha Long, it was here that condoms were used most frequently (by 21%) and knowledge about HIV was highest (82% correct answers). However, few respondents reported using condoms during most episodes of intercourse.

The low level of education in the mountainous area inhabited by minority groups is disturbing and suggests that the use of written messages and posters may be ineffective for this population. It is not surprising that in all three areas the primary source of information about HIV/AIDS was television and radio. The proportion who had heard about HIV/AIDS through television was lowest in Binh Lieu, suggesting that television is not as readily available in the area where literacy is lowest. Our data suggest that messages about HIV and AIDS aimed at rural and minority areas need to be broadcast more frequently in local languages on both radio and television and that posters need to rely on illustrative material.

The number of individuals who had had a sexual partner other than their spouse in the last 6 months was low in all three districts (3–4%). The proportion of men in all three districts who reported having had sex with sex workers was also low. These proportions were far lower than the proportion of Thai men who reported having had sex with a sex worker in Thailand, a country with a high prevalence of HIV (8). Conversely, the proportion of Filipino men who had had sex with sex workers in the Philippines, a country with a low prevalence of HIV, was low (9). The low proportion of Vietnamese men reporting that they had had sex with sex workers may, therefore, partly explain the low rate of HIV infection among sex workers.

The proportion of respondents who reported drug use was highest in Ha Long (2%), the urban area, but was low in all three districts. This suggests that the HIV epidemic in Viet Nam may be occurring among

Table 3. Prevalence of behavioural risk factors for infection with HIV

Age (years) at first sexual intercourse	Binh Lieu (n = 210)		Yen Hung (n = 210)		Ha Long (n = 210)	
	No.	%	No.	%	No.	%
15–19	58	36	16	10	10	8
20–24	90	55	97	61	76	57
25–29	12	8	39	25	38	28
30–34	2	1	6	4	9	7
35–45	0		1	1	1	1
Age (years) at marriage (currently married)						
15–19	56	35	12	8	7	6
20–24	85	54	96	61	68	53
25–29	14	9	39	25	37	29
30–34	2	1	8	5	14	11
35–45	2	1	2	1	2	2
If single, does respondent have a regular partner for sex?						
Yes	6	10	9	18	18	24
No	39	78	38	78	54	73
No answer	5	12	2	4	2	3
Condoms used						
Most of the time	14	7	34	16	44	21
Sometimes	20	10	20	10	38	18
Rarely	8	4	6	3	14	7
Never	151	72	136	65	97	46
No answer	17	8	14	7	17	8
Had sexual relations with someone having multiple sexual partners?						
Yes	17	8	16	8	19	9
No	182	87	180	86	177	84
Don't know	11	5	14	7	14	7
Ever had sex with a sex worker?						
Yes	3	1	5	2	6	3
No	197	94	197	94	194	92
No answer	10	5	8	4	10	5
Lifetime number of different sexual partners						
Singles						
None	42	84	44	89	52	70
Only one	7	14	1	2	14	19
More than one	1	2	4	8	8	11
Married						
Only one	141	88	140	87	115	85
More than one	19	12	21	13	21	15
Sex partners other than regular partner?						
Yes	6	3	8	4	6	3
No	191	91	190	91	194	92
No answer	13	6	12	6	10	5
Ever paid for sex?						
Yes	2	1	5	2	7	3
No	202	96	196	93	198	94
No answer	6	3	9	4	5	2
Ever been paid to provide sex?						
Yes	2	1	4	2	2	1
No	204	97	197	94	202	96
No answer	4	2	9	4	6	3

the relatively small population of injecting drug users, but, given the results of sentinel surveillance, HIV seems to have been introduced widely among the networks of drug users. HIV subtype E, the type associated with heterosexual transmission in Thailand and Cambodia, has been identified in drug users in Viet Nam (10, 11). According to a previous study in Ho Chi Minh, however, sexual activity among drug users is low (12). Thus, the apparent lack of spread of HIV to the heterosexual population may be a reflection of the low number of sexual partners reported by Vietnamese men, including injecting drug users.

A recent study by Tuan Anh Nguyen, et al, however, has suggested that injecting drug users in Northern Viet Nam are younger and more sexually active. This may explain the recent increase in HIV

prevalence in sex workers in Haiphong and Hanoi, the major urban areas (13).

This study suggests that more effort needs to be made to educate minority groups living in rural areas about HIV/AIDS and that condom use should be promoted, especially among the young who seem to be engaging in sexual intercourse with more partners than earlier generations. Current rates of infection are low. Policy-makers, however, should be aware that if this trend towards having more sexual partners continues, the potential for HIV to be spread through heterosexual sex, which is currently low in Viet Nam, will increase. ■

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Résumé

Viet Nam : étude transversale sur le comportement sexuel et la connaissance du VIH dans les populations urbaines et rurales et au sein de minorités

Objectif On a mené une enquête transversale dans trois districts de la province de Quang Ninh au Viet Nam pour déterminer le pourcentage de gens qui, dans ces districts, ont des comportements susceptibles de les exposer au risque d'infection par le VIH, et pour mesurer l'étendue de leur connaissance de l'infection à VIH et du SIDA.

Méthodes Cette enquête a été menée dans un district rural, Yen Hung ; un district montagneux, essentiellement habité par des minorités ethniques, Binh Lieu ; et un district urbain, Ha Long. Les participants âgés de 15 à 45 ans ont été choisis de façon aléatoire dans la population générale.

Résultats Au total, on a interrogé 630 personnes appartenant à 707 foyers ; 8 % n'ont pu être trouvées à leur domicile malgré des visites répétées, et 3 % ont refusé de participer. Dans cette enquête, la prévalence des rapports sexuels avant le mariage est située entre 9 et 16 % chez les hommes mariés et entre 4 et 7 % chez les femmes mariées. Six à 16 % des hommes célibataires avaient eu des rapports. Moins de 3 % ont signalé avoir

eu des rapports avec une prostituée. Le nombre médian de partenaires sexuels extraconjugaux était de un. Dans les zones urbaines et rurales, les gens avaient une bonne connaissance du VIH/SIDA, ce qui n'était pas le cas en zone montagneuse. On a pu observer que la multiplicité des partenaires sexuels était associée au groupe des personnes de sexe masculin entre 20 et 29 ans.

Conclusion Le faible nombre de sujets ayant signalé qu'ils avaient eu des rapports avec des prostituées et avec des partenaires extraconjugaux pourrait expliquer le faible taux d'infection à VIH dans la population hétérosexuelle, à la différence du taux élevé rencontré chez les consommateurs de drogue par voie intraveineuse. L'association existant entre le fait d'avoir des partenaires extraconjugaux et celui d'être un homme jeune laisse à penser qu'à l'avenir cette tendance à la multiplicité des partenaires pourrait progresser ; auquel cas, le potentiel qu'aura le VIH de se propager dans la population hétérosexuelle augmentera.

Resumen

Estudio transversal del comportamiento sexual y de los conocimientos sobre el VIH entre poblaciones urbanas y rurales y minorías de Viet Nam

Objetivo Se llevó a cabo un estudio transversal en tres distritos de la provincia de Quang Ninh, en Viet Nam, para averiguar qué proporción de sus habitantes adoptaban comportamientos de riesgo de infección por el VIH, así como para determinar sus conocimientos sobre esa infección y sobre el SIDA.

Métodos Los escenarios del estudio fueron un distrito rural, Yen Hung; un distrito montañoso habitado fundamentalmente por minorías étnicas, Binh Lieu; y un distrito urbano, Ha Long. Con edades comprendidas entre 15 y 45 años, los participantes fueron seleccionados aleatoriamente a partir de la población general.

Resultados Se entrevistó en total a 630 personas, tras visitar 707 hogares; al 8% no se le pudo localizar en su domicilio pese a las repetidas visitas, y el 3% se negó a participar. La prevalencia de relaciones sexuales prematrimoniales se situaba en el intervalo 9%-16% entre los hombres casados, y en un 4%-7% entre las mujeres casadas. En cuanto a los hombres solteros, la proporción de quienes habían tenido relaciones sexuales en algún momento se situaba entre el 6% y el 16%. Menos del 3% dijo haber recurrido a profesionales del sexo. La mediana del número de parejas sexuales extraconyugales era de 1. Los conocimientos sobre el

VIH/SIDA eran altos en las zonas urbana y rural, pero escasos en la zona montañosa. La condición de varón y la franja de 20 a 29 años se asociaron al hecho de tener varias parejas.

Conclusión La baja prevalencia de individuos que declararon haber mantenido relaciones con profesionales del sexo y con otras personas aparte de su cónyuge podría explicar la reducida tasa de infección por el VIH

observada en la población heterosexual; esos valores contrastan con las altas tasas de infección observadas entre los usuarios de drogas inyectables. La mayor frecuencia de parejas extraconyugales detectada entre los hombres más jóvenes lleva a pensar que la tendencia al aumento del número de parejas podría acentuarse en el futuro. Si eso se confirma, aumentarán también las posibilidades de transmisión heterosexual del VIH.

References

1. *1994 statistical year book in Vietnam*. Hanoi, General Department of Statistics, 1994.
2. **Thuy NTT et al.** HIV infection and risk factors among female sex workers in southern Vietnam. *AIDS*, 1998, **12**: 425–432.
3. **National Institute of Hygiene and Epidemiology (NIHE).** *Quarterly national surveillance report to Ministry of Health of Vietnam*. Hanoi, National Institute of Hygiene and Epidemiology, April 1997.
4. **Quang Ninh Health Service.** *Report on infectious diseases programs*. Hanoi, Quang Ninh Health Service, 1997: 3–4.
5. **Ministry of Labour and Social Affairs.** *Annual report of the Department of Social Affairs*. Hanoi, Vietnam, Ministry of Labour and Social Affairs, 1994.
6. **Ariwan I, Frerichs RR.** *User's manual for C survey*. Los Angeles, Department of Biostatistics and Population Studies, University of Indonesia; UCLA/Fogarty AIDS International Training and Research Program, University of California, Los Angeles, 1996.
7. **Liu HJ, Detels R.** An approach to improve validity of responses in a sexual behavior study in a rural area of China, *AIDS and Behavior*, 1999, **3**: 243–249.
8. **Celetano DD et al.** Behavioral and sociodemographic risks for frequent visits to commercial sex workers among northern Thai men. *AIDS*, 1993, **7**: 1647–1652.
9. **Borja MP, Palladin FJ, Detels R.** Sexual behaviors and low levels of HIV risk among Filipino male sex workers (unpublished document).
10. **Nerurkar VR et al.** Sequence and phylogenetic analyses of HIV-1 infection in Vietnam: subtype E in commercial sex workers (CSW) and injection drug users (IDU). *Cellular and Molecular Biology*, 1997, **43**: 959–968.
11. **Oulad-Ali A et al.** Structure elucidation of three triterpene glycosides from the trunk of *Argania spinosa*. *Journal of Natural Products*, 1996, **59**: 193–195.
12. **Tran SD et al.** Risk factors for HIV seropositivity in a sample of drug users in drug treatment in Ho Chi Minh City, Vietnam. *Journal of Acquired Immune Deficiency Syndrome and Human Retrovirology*, 1998, **17**: 283–228.
13. **Nguyen TA et al.** Risk factors for HIV-1 seropositivity in drug users under 30 years old in Haiphong, Vietnam. *Addiction*, in press.