CHAPTER IV

DATA EXERCISE

HIV PREVENTION PARTNER COUNSELING AND TESTING IN QUANG NINH, HAI PHONG, AND HAI DUONG NORTHERN PROVINCES, VIET NAM

4.1 INTRODUCTION

Quang Ninh, Hai Phong and Hai Duong Provinces are located in Northern Vietnam and are major tourist centers with thousands of foreign and domestic tourists each year. The two provinces are two components of a triangle of economic growth (Ha Noi-Hai Phong-Quang Ninh) and Hai Duong situated in the road No 5 which links Hanoi with Quang Ninh and Hai Phong in Northern Vietnam.

Since 1997, three Provinces have experienced major epidemics of HIV with 4,175 HIV/AIDS cases reported. HIV prevalence, as estimated by sentinel surveillance, now exceeds 64% in Quang Ninh Province among injecting drug users (IDUs) and among the more than one thousand pregnant women HIV tested in Quang Ninh Province was approximately **0.3%,(2/812)** in the first round of sentinel surveillance of 1998 and **0.7%,**

(7/1060), first round of 1999. The HIV situation analysis indicated that the trend of the HIV epidemic appears to be increasing in other populations such as STD clinic patients, female sex partner of HIV infected men, and pregnant women.

These and other findings from sentinel surveillance have stimulated many activities in Quang Ninh, Hai Phong and Hai Duong provinces including a general situational assessment of HIV and related risks in the province. On-going and planned assessments for the province include assessments of surveillance system functioning and laboratory support for HIV testing, capacities of the HIV prevention program and training needs of public health personnel working in Quang Ninh, Hai Phong and Hai Duong.

In 1999, the National AIDS Committee in collaboration with Quang Ninh AIDS Committee conducted the study of HIV situation assessment and risk behavior assessment of IDUs province. The results revealed that almost (97%) of HIV infected person are male and 87% have had sex, of those who have had sex, 23% have had sex with wife, 58% have had sex with lover and 19% with CSWs. The proportion of proper condom use among HIV infected men is very low at 43%. The female sex partners of HIV infected men still can not access the HIV prevention services. These provinces do not have the specific intervention program for the specific high-risk groups such as female sex partners of HIV infected men. This finding has caused a great concern on the part of the NAB, the Quang Ninh, Hai Phong and Hai Duong Provincial Peventive Medical Centers and STD Centers and General Hospital in the Provinces. To prevent

HIV infection among the female sex partners of HIV infected men, the proposal "HIV prevention partner counseling and testing" was approved and conducted in Quang ninh, Hai phong and Hai duong, Northern Provinces, Vietnam.

4.2 OBJECTIVES OF RESEARCH PROJECT

- To partially achieve the risk behavior assessment of couples with HIV positive men in Quang Ninh, Hai Phong and Hai Duong Provinces to make plans for HIV prevention.
- To assess the HIV prevalence of steady partners of HIV infected men.
- To identify the willingness of HIV men and their female sex partners participation in " HIV prevention partner counseling and testing services in Quang Ninh, Hai Phong and Hai Duong Provinces, Viet nam"

4.3 METHODOLOGY

4.3.1 Study design

This is a cross-sectional descriptive study that is designed to study the HIV Prevention Partner Counseling and Testing in three Northern Provinces of Vietnam.

4.3.2 Study population

4.3.2.1 Study areas

Quang ninh, Hai phong and Hai duong were selected as study area.

4.3.2.2 Target population

The target population was HIV infected men and their female sex partners in three Northern Provinces.

4.3.2.3 Sample size

Sample size was calculated by applying the following formula:

$$n = \frac{Z^2 .p.q}{d^2} = \frac{(1.96)^2 .(0.3).(0.7)}{(0.08)^2} = 126$$

Where,

n = estimated sample size.

z = standard normal score at significance level at 0.05=1.96.

p = expect proportion of female sex partner who infected with HIV = 0.3

d = absolute precision of study = 0.08.

4.3.2.4 Sampling technique

Quang ninh, Hai phong and Hai duong Provinces were selected for conducting this study. Desired sample size of 126 HIV infected men (around 130) was determined based on calculated sample size. Based on a pilot study (willingness of HIV men participating in the study is about 70%), 205 HIV infected men were systematic randomly selected among 1,413 reported cases living in the local area, for potential participation to have around 130 HIV infected men who could be located and willing to participate. In case that there were not HIV man or female sex partner available during the interview period, the interviewer went to next subject and came back later for the missed interview. The interview was only conducted when the interviewer obtained the informed consent. Participation in the assessment would be completely voluntary and only with informed consent. Recruits would be able to refuse participation at any time without any negative consequence.

4.3.3 Data collection method

4.3.3.1 Research instrument

A structured interview questionnaire was designed and used as research instrument for data collection. Initially the questionnaire was prepared in English and then translated into Vietnamese. Pretest for reliability of the questionnaire was carried out by implementing a pilot study in Quang Ninh Province, Vietnam. Results of the pre-tests

were also checked to find out any difficulties for the interviewers regarding the questionnaire or difficulty facing the respondent to answer the questions. The questionnaire was modified for data collection.

The questionnaire composed of into six parts as follows:

Part 1: Socio-demographic characteristics

Part 2: Knowledge toward HIV/AIDS prevention

Part 3: Sexual behavior and STD status

Part 4: Drug use behavior

Part 5: Partner notification assessment

4.3.3.2 Data collection

Data was collected confidentially, directly by face to face interviews/counseling of the sample population in three Northern Provinces, Vietnam. Data collection started from August to November 2000 by thirteen Vietnamese health workers who are working in health settings of three northern provinces. They were trained two times on how to access, counsel and interview HIV men and female sex partners with a confidentiality manner and how to use the questionnaire and interviewing techniques.

4. 3.3.3 Data analysis

SPSS for windows were used for data processing and analysis. Frequency and relative percentage were used to display the distribution of research variables. The percentage of the socio-demographic factors and partner notification assessment, knowledge and attitude toward HIV/AIDS as well as sexual behavior, STD status and drug use behavior were computed on the basis of mean and for grouping mean were used after scoring. Univariate analysis was used to measure the association between the main outcome and the risk factors of the study.

Recoding of the variables was done. Scoring of HIV/AIDS knowledge was carried out to know the overall knowledge of HIV/AIDS. The knowledge on HIV/AIDS and history of HIV testing was measured by 8 questions, there were 4 questions enquiring about knowledge on HIV/AIDS epidemic, transmission and treatment for PWHA. Score 1 was given for right, score 2 was wrong answer and score 3 was not sure (middle). Mean of the total score was taken as to differential the poor and good knowledge, lower than mean was poor knowledge and equal and higher than mean was good knowledge. Four questions were asked about the history of HIV testing.

Ten questions were asked about sexual history, condom use and history of HIV status as well as medical treatment seeking behaviors. Nineteen questions were asked to know the drug use including starting drug use, kind of drug, drug used behavior and drug

treatment. Nine questions were asked about other factors such as a history of blood transfusion, tattooing etc...For HIV infected men we have a section listing all partners in the last 12 months and description of their female sex partner and preferred contact method to their female sex partner. All these information would be kept confidential and destroyed after partner interview. For female sex partners we have had a part of the partner notification assessment. This part was proposed to assess whether patients were contacted with confidential manner or not and evaluate the willingness of the HIV men and their female sex partners participation in "HIV prevention partner counseling and testing services".

HIV status of female sex partner was considered as a main outcome. It would be scored as 0="negative" and 1="positive". All the scores of variables were summed-up and classified into two groups "positive" and "negative" for comparisons.

4.4 RESULTS

This cross-sectional descriptive study describes the willingness of HIV men and their female sex partner participation in the HIV prevention partner counseling and testing, assesses the risk behavior of discordant and concordant HIV men and measures the HIV prevalence among steady female sex partners of HIV infected men in three Northern Provinces, Vietnam.

Results of this study were presented in six different sections:

- The first was the socio-demographic factors of respondents
- The second was the knowledge on HIV/AIDS epidemic and transmission.
- The third was the risk behavior assessment (sexual behavior, STD status and drug use behavior).
- The fourth was the HIV prevalence among female sex partner of HIV men.
- The fifth was the willingness of HIV men and their sex partner to participate in the study.
- The sixth was the association between study factors and HIV status of female sex partner.

4.4.1 Socio-demographic factors of respondents

Table 4 showed the general characteristics of respondents that include age, gender, occupation, education, and marital status. 135 HIV infected men consented to interviews and accepted interviewing of female sex partner. Some men admitted to more than one sex partner, but in this study we focused on either current sex partners or sex partners within the past six months. Of the 135 female sex partners, all consented to interviews and accepted to HIV testing. The male and female respondents were equal (one for each)

The highest age of the respondents was 45 years and lowest was 18 years. Age of respondents was classified into 3 groups: less than 20 years and 20-29 years and more than 30 years. Most subjects were in young age group less than 30 (68%). Occupation of the respondents were farmers (8.1%), Workers (18.5%), Government employees (0.7%) and others (72.6%) which included housewife, business, unemployment and services.

Education status was grouped into three levels: primary level, secondary level and higher level. The education for primary level and secondary level were 16.3% and 57.4% respectively. There were 26.3% who attained higher education. Marital status was categorized into two groups: current living together 77.0% and not living together 23.0%. The current living together included legally married and unmarried couples.

Table 4. Frequency and percentage distribution of socio-demographic factors of respondents (n=270)

Characteristics	Frequency	Percentage
Sex		
Male	135	50.0
Female	135	50.0
Age group		
Less than 20 years	8	3.0
20-29 years	176	65.2
30-49 years	86	31.9
Occupation		
Farmer	22	8.1
Worker	50	18.5
Government employee	2	0.7
Others (housewife, business, unemployment, services)	196	72.6
Education		
Primary school	44	16.3
Secondary school	155	57.4
High school and higher than	71	26.3
Marital status		
Living together (legal, illegal)	208	77.0
Not living together (divorced, separated, others)	62	23.0

4.4.2 Knowledge of respondents on HIV/AIDS epidemic and transmission

In table 5, as for knowledge toward the HIV/AIDS epidemic, most of the respondents (96.6%-99.3%) had correct answers. This percentage compared with the survey on KABP, 1998 (Knowledge, Attitude, Behavior and Practices among general population, Dang Van Khoat, NAC) is a little higher (98%).

Concerning knowledge on HIV/AIDS transmission, most respondents (85.5%-99.6%) had correct answers on every question except one on knowledge of HIV infected mother to child through breast-feeding which had slightly lower percentage (68.5%). For the safe sex, using condom when having sex as well as using disposable syringe and needle is quite high (more than 99%).

Table 5. Percentage distribution of correct answers of knowledge on HIV/AIDS transmission (n=270, male & female).

Statement	Percentage of correct answer
Knowledge of HIV/AIDS epidemic	
• HIV/AIDS caused by virus	99.3
• Some one has HIV or AIDS just looking at them	96.7
• HIV/AIDS can be cured	99.3
Knowledge of HIV/AIDS transmission	
• Sharing syringe and needle	99.6
• Sex without condom	99.3
• Having blood transfusion	92.2
• HIV infected mother to child through delivery	85.5
• HIV infected mother to child through breast-feeding	68.5
• Mosquito bite	92.9
• Routine contact (hand shake, kiss, share toilet, telephone...)	95.5

4.4.3 Risk behavior assessment

4.4.3.1 Sexual behavior

With regard to the sexual behavior, we divided into two groups comprising of HIV men and female sex partners. In each group, questions on the age of first sex, first sex partner, the number of sex partners in the last twelve months and condom use behavior were asked. Table 6, table 7 and table 8 showed the statement of respondents toward the sexual behavior. The age at first sex is 14 at the earliest and 30 at the latest and the mean age at the first sex is 21.13 among HIV men and among female sex partner the age of first sex ranged from 16-28, mean of age was 20.44.

Regarding the first sex partner it was classified into three categories: first sex with lover, with spouse or with commercial sex worker. More than half of HIV men have had the first sex with lover (59.3%) in contrast with the female sex partner: more than half of them have had sex with spouse for the first time. There have been 0.7% of female sex partner have had sex for the first time, only with the client. The evidence reflected that the traditional values of sex have changed greatly. For the number of sex partners of HIV men and female sex partner in the last twelve months, it was similar with the mean of around 1.10. And the HIV men answered they have had a higher the number of sex partner in their life time (mean=4.51, S.D.=9.21) compared with that of the female sex partner (mean=2.47, S.D=8.26).

Concerning the condom use when having sex, it was classified into three groups: condom use in the past, condom use at present and in the future for both HIV men and female sex partners. Percentage of the condom use acceptance was the same in both groups (male and female) and had a trend of increasing from the past (3%-8%) to the present (52%). When asked about the view of condom use in the future, in both groups the proportion of positive answer was quite high up to 88%. With regard to the sexual styles, it included vaginal sex, oral sex and anal sex. The table 7 showed that mostly the HIV men have had vaginal sex with steady female sex partners (97.7%). A small number have had sex through oral or anal routes.

Table 6. Percentage distribution of level of sexual behavior of respondent

(male n=135; female n=135).

Statement	% of answer	Mean	Range	Std. Deviation
Male				
Age of the first sexual intercourse	100	21.13	14-30	3.20
Number of sex partners in last 12 months	100	1.12	1-5	0.49
Number of sex partners in the life time	100	4.51	1-60	9.21
Female				
Age of the first sexual intercourse	100	20.44	16-28	2.57
Number of sex partners in last 12 months	100	1.10	1-6	0.62
Number of sex partners in the life time	100	2.47	1-60	8.26

Table 7: Frequency distribution of number of sex partners in life time and last twelve months

Number of sex partner	In life time		Last twelve months	
	Frequency	Percentage	Frequency	Percentage
Male				
1	45	33.3	125	92.6
2	35	25.9	6	4.4
3	21	15.6	3	2.2
4	8	5.9	0	0
5	9	6.7	1	0.7
>5	17	12.6	0	0
Female				
1	109	80.7	130	96.3
2	19	14.1	3	2.2
3	2	1.5	0	0
4	1	0.7	0	0
5	0	0	2	1.5
>5	4	3.0	0	0

Figure 1 : Number of sex partner of HIV men in life time and last twelve month

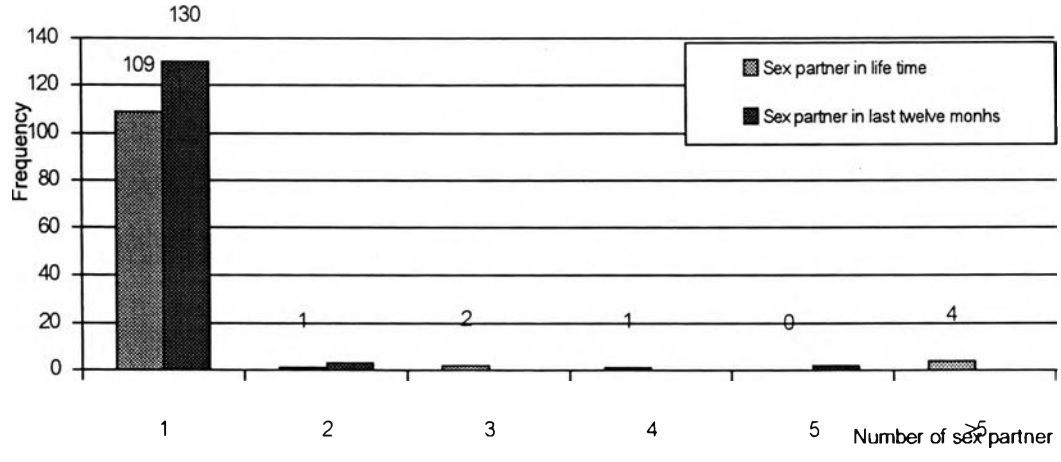

Figure 2 : Number of sex partner of female in life time and last twelve months

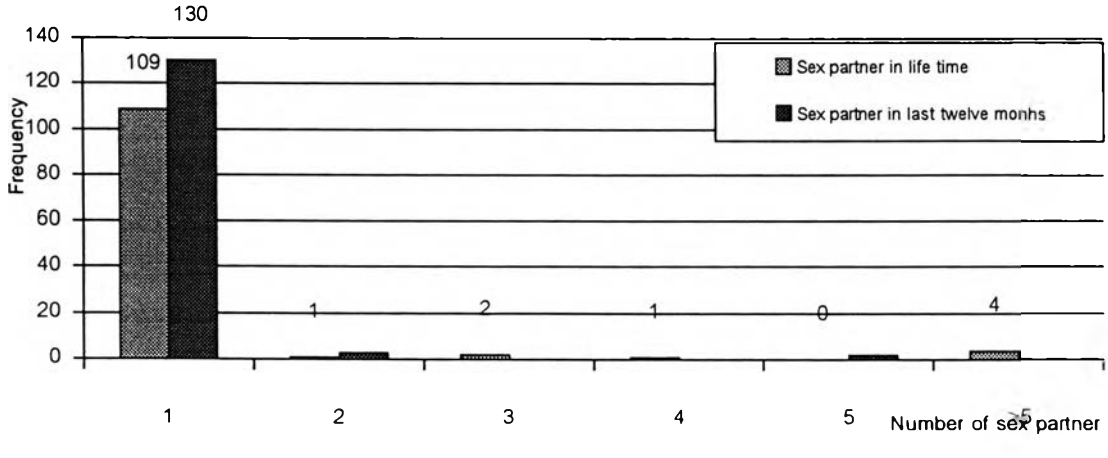

Table 8. Percentage distribution of the first sex partners and condom use behaviors of HIV men and their female sex partner (male n=135; female n=135)

Statement	Number	Percentage
Male		
First sex partner		
Lover (female)	80	59.3
Spouse	34	25.2
CSW	21	15.6
Condom used with first sex partner (properly)	8	6.0
Condom used with current sex partner (properly)	52	38.5
Condom used in the future	86	63.7
Sexual style		
Vaginal sex	132	97.7
Oral sex	2	1.5
Anal sex	1	0.7
Female		
First sex partner		
Lover (male)	62	45.9
Spouse	72	53.3
Client	1	0.7
Condom used with first sex partner (properly)	3	2.2
Condom used with current sex partner (properly)	52	38.5
Condom used in the future	88	65.2

4.4.3.2 STD status

With regard to STDs status of respondents, approximately 11.0% of HIV men (15) and 8.9% of female sex partners (12) have had STDs infections. The most common medical signs/symptoms among STD-HIV men and STD-female sex partners were discharge from sex organ (66.7%-73.3%) and followed by genital ulcer (16.7%-20.0%). The other symptoms were of lower percentage (table 9).

The medical care seeking behavior of STD-HIV men and STD-female sex partners were classified into three groups (state hospital treatment, private doctor and self treatment). Nearly half of these STD patients sought treatment from a state hospital (40.0%-41.7%) and the same percentage of them sought medical care from a private doctor (33.3%-41.7%). A small number treated themselves (8.3%-13.3%).

Table 9. Percentage distribution of STD status and treatment seeking behavior of HIV men and sex partner (male n=135, female sex partner n=135)

Statement	Number	Percentage
Male		
Have a history of STDs:	15	11.0
Discharge	11	73.3
Genital ulcer	3	20.0
Other	1	6.7
Treatment seeking behaviors		
State hospital	6	40.0
Private doctor	5	33.3
Yourself	2	13.3
Female		
Have a history of STDs	12	8.9
Discharge	8	66.7
Genital ulcer	2	16.7
Other	2	16.7
Treatment seeking behaviors		
State hospital	5	41.7
Private doctor	5	41.7
Yourself	1	8.3

4.4.3.3 Drug use behavior

Drug use behaviors of HIV infected men and female sex partners were identified through the following indicators: starting use of drug, age of starting drug use (male only), kind and form of drug used, drug injection frequency at present and behavior toward cleaning of syringe and needle.

However, almost all injection drug users were males (133/135) and the number of female sex partner who used drug was few. There were only two female sex partners (2/135) who were drug users, one of them was an injection drug user and another one was a drug smoker. So drug use behavior assessment was focused on available information of male-IDUs.

With regard to starting use of drug, the answers of respondents were summed-up and classified into two groups: starting drug use before 1998 and since 1998. The year of 1998 was chosen as a benchmark because at that time the HIV epidemic exploding just started explosion in the Northern Provinces of Vietnam (report of NAB) and Quang ninh, Hai phong and Hai duong was one of severely affected provinces by the epidemic. In this study, 78.5% (106) of the subjects reported drug use before 1998 and only 20% (27) used drug after 1998 (table 11).

Table 10. Percentage distribution of IDU-HIV men and female sex partner

(male n=135, female n=135))

Statement	Number	Percentage
Drug user:		
Male	133	98.5
Female	2	1.5

Table 11. Percentage distribution of starting use of drug (male only, n=133)

Statement	Number	Percentage
Before 1998	106	78.5
Since 1998	27	20.0

With respect to age of male IDUs, it was summarized and classified into three groups: the age of drug users less than/equal 19, from 20 – 29 and more than/equal 30. These age groups were considered young age group, middle age group and old age group who started drug use. The result showed that the majority of drug users have started drug use at the age between 20 – 29 years of age 70.7% (94). Worthy of note is that 16.5% (22) started using drug when they were at young age (less then/equal 19) (table 12)

Table 12. Percentage distribution of age of IDU/HIV men (n=135)

Statement		Number	Percentage
Less than/equal 19		22	16.5
From 20-29		94	70.7
More than/equal 30		17	12.8
Mean	24.33		
Std. Deviation	5.14		
Range	15 - 41		

Table 13 showed the type and form of drug use. These variables were divided into the kinds and forms of drug use at the beginning and at present (at the time of assessment). It found that most respondents have used heroin 60.2% (80), opium of 38.3% (51) and other of 1.5% (2). In comparison with the kind of drug at present, the percentage of respondent who was using heroin of 86.7% (104), opium of 12.5, and other only 0.8% (1).

Concerning the form of drug use at the beginning and present smoking was 44.4% (59) and nobody was smoking at the present. 91% (121) moved to drug injection of versus 55.6% (74) used injection at the beginning.

Table 13. Percentage distribution of kind and form of drug use (n=135)

Statement	Number	Percentage
Kind of drug use at the beginning *(n=133)*	133	98.5
Opium	51	38.3
Heroin	80	60.2
Other	2	1.5
Kind of drug at present *(n=133)*	120	90.2
Opium	15	12.5
Heroin	104	86.7
Other	1	0.8
Form of drug use at the beginning *(n=133)*		
Smoking	46	34.6
Inhaling	13	9.8
Injecting	74	55.6
Form of drug use at present *(n=133)*		
Injecting	121	91.0
No longer drug use	12	9.0

Table 14 with regard to drug injection frequency, it was very difficult for respondents to answer the question of drug injection frequency at the beginning and had a

lot of missing answer. So the drug injection frequency at present was concentrated. The answers of respondent were grouped and classified into two groups included one time/day and more than one/day. The study results were one time/day of 53.7% (65) and more than one/day of 46.3% (56) at present.

Table 14. Percentage distribution of drug injection frequency at present (n=121)

Statement	Number	Percentage
One time/day	65	53.7
More than one/day	56	46.3

Table 15, almost all the drug addicts under this study could only use their own needle and syringe or disposable ones for a short time at the beginning, then as high as 100% (121) of them shared syringe and needle. The behavior toward sterilizing syringe and needle of injection drug users: 37.2% (45) have ever sterilized syringe and needle in which 86.7% (39) put syringe and needle in boiled water, 11.1% (5) washed by plain water and 2.2% (1) decontaminated by alcohol.

Table 15. Behavior toward cleaning of syringe and needle (n=133)

Statement	Number	Percentage
Shared syringe/needle	121	91.0
Sterilized syringe/needle (n=45)	45	37.2
Put in boiled water	39	86.7
Washed by plain water	5	11.1
Decontaminated by alcohol	1	2.2

4.4.4 HIV prevalence among female sex partners of HIV infected men

With regard to the HIV prevalence of female sex partners of HIV infected men under this study, firstly investigators/counselors obtained an informed consent before the HIV test was conducted. Accepting or refusing did not have detrimental consequences to the quality of care offered. Both written consent and verbal consent were used, depending on the situations in which confidentiality of respondent can be maintained. Both strategies of anonymous testing (testing information not documented in client's record) and confidential testing (testing information documented in client's record) have been used, based on patient preference. Testing sites were on site (home and work place of patient) or in a health care setting where confidentiality can be maintained. Determine rapid test (one kind of test) was used for screening. If screening test was positive that

sample was sent to the preventive medicine center of province for confirmation (by the guideline of the Vietnam Ministry of Health for HIV test confirmation). The study result showed that 135 female sex partners who agreed to HIV testing (90% of contacted persons), 16.3% of them (22 cases) had positive test result.

4.4.5 Willingness of HIV men and their female sex partners participation in the study

The Willingness of HIV men and their female sex partners participation in the HIV prevention partner counseling and testing model can be measured by indicators such as: the willingness of HIV infected men and female sex partner participated in the study, the ways of contact, place of contact and manner of contact.

Table 16. Percentage of HIV infected men and female sex partners willing participation in the study.

Factor	Willingness number	Percentage
Male (n=205)	150	73.0
Female (n=150)	135	90.0

Table 16 revealed that among 205 contacted HIV infected men, 73% (150) was willing to participate in the study (135 met recruitment criteria). The percentage of female sex partners to be taken part in the study was 90% of contacted female sex partners, higher than that of HIV infected men.

Table 17. Percentage of accessibility distribution of female sex partners

Factor	Number (N=135)	Percentage
Way of contact		
- Direct contact	119	88.0
- Referral contact	16	12.0
Place of contact		
- At home & work place	123	91.1
- Clinic or health station	12	8.9
Confidential manner of contact	130	96.3

Table 17, this study was started from HIV infected men as index cases. HIV infected men after being contacted and interviewed were asked the ways which their female sex partners can be accessed. Among 135 female sex partners, 88% (119 were directly contacted and 12% (16) were conducted through the referral contact (have a contract with female sex partner for interviewing and testing). With regard to the places of contact (interviewing and testing) were conducted at home and work place of female sex partner, accounted for 91.1% (123) and 8.9% (12) were at clinic or health station. 96.3% (130) of female sex partners were contacted with a confidential manner.

4.4.6 Association between study factors and HIV sero-status of female sex partner.

Analysis of information was obtained by the structured questionnaire, the result shown in table 18. The sero-status of female sex partner was considered as a main outcome and univariate analysis was used to evaluate the association between the outcome and risk factors: HIV men injected drug before 1998 and since 1998, History of STDs of female sex partner, History of HIV testing of female sex partners, HIV men plan using condom in the future is associated with the HIV sero-status of the female sex partners.

Table 18 . Association between study factors and HIV positive female sex partners

Factors	OR	95% CI	P - Value
HIV men injected drug before 1998 and since 1998	0.28	0.09 – 0.84	0.008
History of STDs of female sex partner	6.69	1.65 – 27.51	
HIV men plan using condom in the future	0.26	0.09 - 0.73	

4.5 DISCUSSION

The HIV epidemic is challenging the individual, community and society as a whole. The HIV is transmitted through the risk behaviors of people such as unsafe sex, sharing syringes and needles. Behavior change is very difficult, it is affected by self-effort of individual, social environment support, and availability and accessibility of support services. If one of these components, is lacking the HIV prevention activities can not be successful. This study was performed to determine the risk behaviors of couples with HIV positive men and acceptance of the partner counseling and testing services and the current situation of HIV infection among the steady sex partners of HIV infected men in the three Northern provinces of Vietnam.

4.5.1 Socio-demographic factors

The socio-demographic factors include age, occupation, and education of HIV infected men and their sex partners, the result is similar to the previous study (Tien, Chu Van: HIV situation analysis in Quang ninh province and annual report, 1999, NAB). Most of the respondents are at age group between 20 – 29 (65%) and free labor (unstable job) of 72% and at secondary school of education of 57%.

4.5.2 Knowledge of HIV/AIDS epidemic and transmission

Regarding knowledge of HIV men and their sex partner toward the HIV epidemic, it revealed that the percentage of respondents had the correct answers, accounted for from 96.6% - 99.3%. This percentage compares with the survey on KABP (Khoat, Dang Van, NAC, 1998) is little higher (98%). The knowledge on HIV/AIDS transmission and prevention, 85.5% - 99.6% has correct answers on every question except the question of HIV infected mother to child through breast-feeding, which was lightly lower of 68.5%, compared with the study of risk behavior assessment in Quang ninh province (Tien, Chu Van, NAB, 1999), the percentage of correct answer was 82%.

For the safe sex, knowledge on using condom when having sex as well as using disposable syringe and needle was very high (99%). But in reality (table 7), the percentage of actual condom use with current female sex partners was only 38.5%. It is

again showed the big gap between the knowledge and action (behavior change). Univariate analysis showed that knowledge on HIV prevention there have not been significant difference between concordant and discordant couples

4.5.3 Risk behaviors

4.5.3.1 Sexual behavior

The result of sexual behavior in this study revealed that the first sex partner of HIV men were 59.3% with lover (female) versus the first sex partners of female were 53.3% with husband. Particularly, the first sex partner of HIV men with CSW and of female sex partner with client was 15.6% and 0.7% respectively. The mean of sex partner in the life time of HIV men was 4.51 higher than that of female of 2.47. These evidences were reflected the traditional sex values have changed greatly.

The percentage of current condom use was 38.5% lower than that of the study on risk behavior assessment in Quang ninh province, 43% (Tien, Chu Van, 1999, NAB) and the proportion of condom use of CSW with client was 57% (Minh, Truong Tan, SADI SIDA project, 2000). This point showed that the percentage of condom use among steady sex partner was lower than that of CSW. It also contributed to explain the HIV prevalence among steady sex partner (16.3%) higher than that among CSW of 3.9% (NASB report, 2001). Univariate analysis showed there was no significant difference of condom use between the concordant and discordant couples ($p>0.05$).

4.5.3.2 STD status

Regarding the STD status, 11% of HIV men and 8.9% of female had a history of STDs, the percentage of STDs among female was lower than that of CSW as 50% (Nguyen Thi Thanh Thuy, Vo Tuyet Nhung, Nguyen Van Thuc, Truong Xuan Lieu, Ha Ba Khiem: HIV infection and risk factors among female sex workers in Southern Viet nam, 1998). Particularly the history of STDs of female was strongly associated with their HIV – seropositive (OR=6.69, 95% CI=1.65 – 27.51).

4.5.3.3 Drug use behavior

The result of the study showed that the percentage of sharing syringe and needle was similar to that of some previous studies, ranged from 90% - 100%. It supports the current HIV epidemic in Vietnam where 65% of HIV reported cases are IDUs (NASB report, 2001). It also may explain the HIV epidemic in Vietnam, firstly HIV was transmitted by sharing of syringe and needle among IDU groups (NASB report, 2001) and then it may be transmitted to female sex partner through unsafe sex and leading to the high HIV infection among pregnant women.

4.5.4 HIV prevalence among female sex partners

HIV prevalence among the female sex partner of HIV infected men under this study was 16.3%. It was lower than that of the study on HIV prevalence among wives of HIV men in Khanh Hoa province of 20% (Minh, Truong Tan, 1998). Reasons can be explained, this study was focused on the steady sex partners (include wife and sex partner) and HIV men detected in the most recent years and currently living in the community (excluded HIV men in prison)

4.5.5 Willingness of HIV men and their sex partners participation in the study

This study have involved 13 health workers of three provinces including 5 of Quang ninh, 5 of Hai phong, and 3 of Hai duong with full time involvement. They have demonstrated their capacity on the counseling and testing. 70% of HIV men contacted and 90% of female contacted were involved in the study. The percentage of HIV men involved was lower than female because 17% of HIV men contacted have never had a sex partner (exclusive criteria). Maybe, in this study, we provided the incentives for time cost, transportation and free test to the clients, it may lead to a higher participation of HIV infected men and female sex partner.

4.6 CONCLUSION AND RECOMMENDATION

The HIV prevalence of the steady female sex partner of HIV infected men in Quang ninh, Hai phong and Hai duong province under this project was 16.3%. The factors associated with the HIV status of female were the female sex partners of men who have started drug use since 1998 are more likely to be HIV infected than partners of men who had started drug use before 1998 (OR=0.28), 95% CI=0.09 – 0.84). History of infection with other STI of female was significantly associated with their HIV positivity. Partner counseling and testing in this project significantly increased the number of HIV infected women who know their HIV status and receive counseling.

Further studies on current positive result to detention and rehabilitation of HIV infected men needs to be understood and risk sexual behaviors and HIV prevalence among concordant of HIV positive women need to be conducted to identify more fully the current heterosexual spread of into general population in Vietnam.

4.7 LIMITATIONS OF THE STUDY

This study was limited to only three Northern Provinces, Vietnam and focused on the steady female sex partners of HIV men currently living in the community, which was not the representative of the north and the country as whole. Therefore, results emerged from the study could not be generalized. The conclusion of the study would refer only to those groups selected to participate in the study.

In this study, some variables such as risk behaviors where the indicators was not designed completely to assess the risk behaviors of HIV men and their sex partners. For example, the risk behaviors have to include the behavior of alcohol consumption. The third objective of the study is to assess the willingness of HIV men and their sex partners participation in the project is not fully responded, it was just known the number of HIV men and their sex partners participation in the project. The participation does not mean agreement, commitment, and acceptance for long time and may be in this project the incentive for the participation was proposed. So the behavior change should be considered as main outcome of the project through the HIV prevalence assessment among the female sex partner of HIV infected men for long run.

4.8 LESSON LEARNED FROM THE STUDY

It was learned that the training workshops for the provincial health workers on partner counseling and testing are essential for ensuring the success of the study and coping with the problems arising in the field. Thus, partner counseling and testing training workshop should be incorporated into the proposal for expanding HIV partner counseling and testing services. It was also learned that the periodic monitoring, supervising and evaluation is needed, because the competency of health workers for the services and confidential protection of the clients is the most important elements to ensure the quality of the project.