

HIV/STD Prevalence and Risk Factors among Migrant and Non-Migrant Males of Achham District in Far-Western Nepal

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~ Study Team ~

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EXECUTIVE SUMMARY

This study was carried out to determine HIV/STIs prevalence rates among both migrants and non-migrants males from four VDCs around the Sanfebagar valley of Achham district in far-western Nepal. The objectives of this study were also to measure the extent of relationship between the prevalence rates and risk behavior and to ascertain the extent of linkage between migration and HIV/STI transmission in the area.

Data for this study was collected from a total of 610 males who were from 800 randomly selected households. From all respondents an oral informed consent was taken before conducting the individual interviews in a private setting. The pathological tests of the specimens were carried out in the central laboratories of SACTS Kathmandu and Auroprobe New Delhi.

This sample represents a heterogeneous group of people of the area in terms of their migratory status, socio-demography characteristics and behavior. A little more than one-thirds of them were international migrants who had migrated outside Nepal, specifically India, while over 44 percent were non-migrants. About 16 percent of the participants were those who had never been outside the country but had moved to other districts within the country for employment or study purposes.

Over half of the participants (51%) were in a highly productive and sexually active age group (18-25). However, the proportion of participants in this age group was relatively lower for international migrants (36%) than for internal (59%) and non-migrant (62%) sub-groups. The mean number of children they had had was nearly three, while the contraceptive prevalence rate was 28 percent. The method-specific use rate shows that sterilization was on top, followed by condoms and injectables.

Over 60 percent of them were residents of rural-market areas, while the remaining 40 percent were from non-market remote corners. The proportion having a formal education was higher for internal migrants (99%) than for international (78%) and non-migrant (88%) sub-groups. Due to the high concentration of Brahmin, Chhetri and occupational caste groups, the samples comprised mostly these groups.

Alcohol use was a common habit among a large number of the study participants; but as for drug use, they were using only unprocessed herbal drugs. More than 15 percent of the participants ever had sexual contact with sex workers. The involvement in this behavior was relatively high for international migrants (27%) compared to their internal (14%) and non-migrant (5%) counterparts, but as for the condom use during intercourse with sex workers, an opposing pattern emerges. During international and internal migration the participants visited sex workers mostly with their friends, while during the non-migration period they mostly visited them alone.

Over 80 percent of the participants reported that they had heard of at least one STD. The migration-specific differential shows that the internal migrants were highly aware of the illnesses (97%) followed by non-migrants (81%) and international migrants (72%). The most frequently reported disease was genital ulcers.

A vast majority of the participants claimed to have heard of HIV/AIDS (97%), of which more than four-fifths reported that HIV/AIDS was a fatal disease, and about one-third reported that friends and relatives had died of it. A large number of them reported to have some knowledge about HIV transmission routes like multiple and unsafe sexual contact (87%) and spontaneous infection from an infected mother to her newborn baby (84%). This awareness was slightly higher for internal migrants (96%) than for non-migrants (85%) and international migrants (78%).

Over 86 percent of the participants reported that with the use of condoms they could protect themselves from being infected with the illnesses. This awareness was significantly high among young and unmarried participants.

Nearly two-thirds (62%) of the participants were exposed to some of the IEC materials related to HIV/STDs. The level of exposure to these materials was higher for internal migrants (82%) than for non-migrants (63%) and international migrants (51%). The types of IEC materials they were exposed to included radio, television, newspapers, GO/INGO fieldworkers, posters, street boards and street drama. The main message they got from these sources was related to high-risk sexual behavior and measures to avoid illicit sex and practice safe sex.

The overall HIV prevalence rate among the study participants was over two percent. The differentials showed that international migrants have the highest rate of HIV prevalence (3.7%) followed by internal (3%) and non-migrant (0.7%) sub-groups. The prevalence rate of HIV among the international migrants was significantly associated with the prevalence of any of the STDs and places they visited. Similarly, the prevalence of any STD was significantly associated with sex contact with sex workers.

The illness-specific differentials showed that herpes was the most prevalent illness (8.9%), followed by HIV (2.3%), treated syphilis (1.3), chlamydia (1.1%), gonorrhoea (0.7%) and current syphilis (0.5%). Overall, 13 percent of the participants were infected with at least one of the six different STDs tested in this study. The differentials showed that international migrants have the highest rate of prevalence of all these illnesses. The analysis also showed that the prevalence of HIV infection was extremely high among those who used alcohol regularly during international migration and those who visited Mumbai (7.7%).

The extent of HIV/STI transmission from infected to non-infected partners was extremely high in the study area because none of the HIV infected participants were using condoms during sex with their wives since their return from India. Even among internal and non-migrant sub-groups, condom use was virtually nil, although they were aware of safe sex measures. Although the present HIV prevalence is not tremendously high, if this trend continues and intervention measures are not immediately taken, the disease will rapidly become widespread in the area.

1.0 INTRODUCTION

1.1 Context

The occurrence of HIV/AIDS is becoming widespread among sex workers (SW), their clients, injecting drug users (IDU), truckers and migrant laborers in Nepal. The transmission of HIV/AIDS from these high-risk groups to the general population is a serious health concern because of the lack of curative treatment and the increase of HIV positive cases in the country. In the late eighties the number of identified positive cases was negligible, whereas now, in just over one decade, there are 2024 cases (NCASC, July 31, 2001). The NCASC records also show that in 82 percent of the HIV cases the principle mode of transmission of the illness is through sexual contact between SWs and their clients.

International evidence indicates that since migration brings about immediate changes in the occupation, social condition and economic status of the people, it could be one of the leading factors linked to high-risk sexual behavior and STI/HIV transmission. More specifically, migration often allows them to be free from established social norms, develop a sense of anonymity and become separate from family ties. All these conditions create an environment for them to become involved in unsafe and indiscriminate sexual behavior. The HIV virus is more easily transmitted to those who are already infected with a sexually transmitted disease, or infection (STI) such as syphilis, gonorrhea, chlamydia and herpes.

UNAID research studies have indicated that the increased mobility of the people could result in the spread of HIV infection both to those who migrate and to the members of the community that receive the migrants. The transmission is even more widespread in the transit areas along borders, where large numbers of people move between the countries, pay checks are cashed, drinks purchased and commercial sex workers are readily available. Migrants, due to poverty and unemployment, are vulnerable to such high-risk behavior and are more likely to become infected. These conditions apply largely to the Nepali male migrants in western Nepal.

In Achham district, poverty has caused a great number of men to migrate to India for temporary employment. Since mobility is strongly associated with the spread of HIV infection, these men are in the high-risk category. However, in the absence of authentic data, it is difficult to ascertain as to what extent the illness is prevalent among this high-risk group. It is also impossible to measure the extent of the risks and the differentials between the migratory and non-migratory sub-groups. No HIV/STI prevalence survey has yet been conducted to establish baseline data or to ascertain the extent of linkage between migration and HIV transmission in the area.

In order to prevent the transmission of the disease and to improve the quality of public health, FHI/Nepal, through private sectors, has launched a number of STI/AIDS control and awareness programs among high-risk groups in the country. For the continuation of these efforts, New ERA carried out this study with emphasis on the relationship between clinical data and risk behavior among the migrant and non-migrant males, particularly of the age group 18 to 50. The focus of this study has been to reveal the prevalence rate of HIV and selected STIs among the people of different categories, and its relationship to sexual behavior at migration source.

Results received from the study will be used to formulate program interventions for migrant as well as non-migrant members of the communities. The results will also be used as baseline data for monitoring and evaluating these interventions in the future.

1.2 Objective of the Study

The overall objectives of this study are to determine the HIV/STI prevalence and risk factors among Nepali male migrants and non-migrants in selected Village Development Committees (VDC) of Achham district. The specific objectives are to:

- Assess HIV/STI prevalence among 18- to 50-year-old males in four VDCs surrounding Sanfebagar of Achham District;
- Determine the percentage of males who migrated to India and other locations and its association with HIV/STI infection;
- Identify significant risk factors, such as sexual and other risk behavior, which increase the chances of contracting disease; and
- Establish baseline data for monitoring and evaluating future program interventions.

1.3 Study Limitations

This study has adopted cross sectional research design to reveal prevalence rates of diseases and risk behavior of people of different strata and socio-demographic characteristics. To a large extent, it has used a structured questionnaire as its source for information. Additional qualitative data in the future will help to elucidate many of the study findings.

The findings presented here are representative only of the study population in the geographic areas of the sample. They cannot be generalized to represent populations in other parts of Achham district or in other parts of Nepal. Indeed, one of the major findings of the study is that HIV transmission is highly related to migration within and outside of Nepal. Since migration patterns are extremely varied in each district of the country, HIV and STI transmission dynamics may be very specific to a district.

2.0 METHODOLOGY

2.1 Study Area

All together four Village Development Committees (VDC) around the Sanfebagar valley rim of Achham district in far-western Nepal were selected as the study area. This area lies within the rugged topography of the district's northwestern hill-slopes (Figure 1.1). These VDCs (Table 2.1) were selected on the basis of several factors. They include the following:

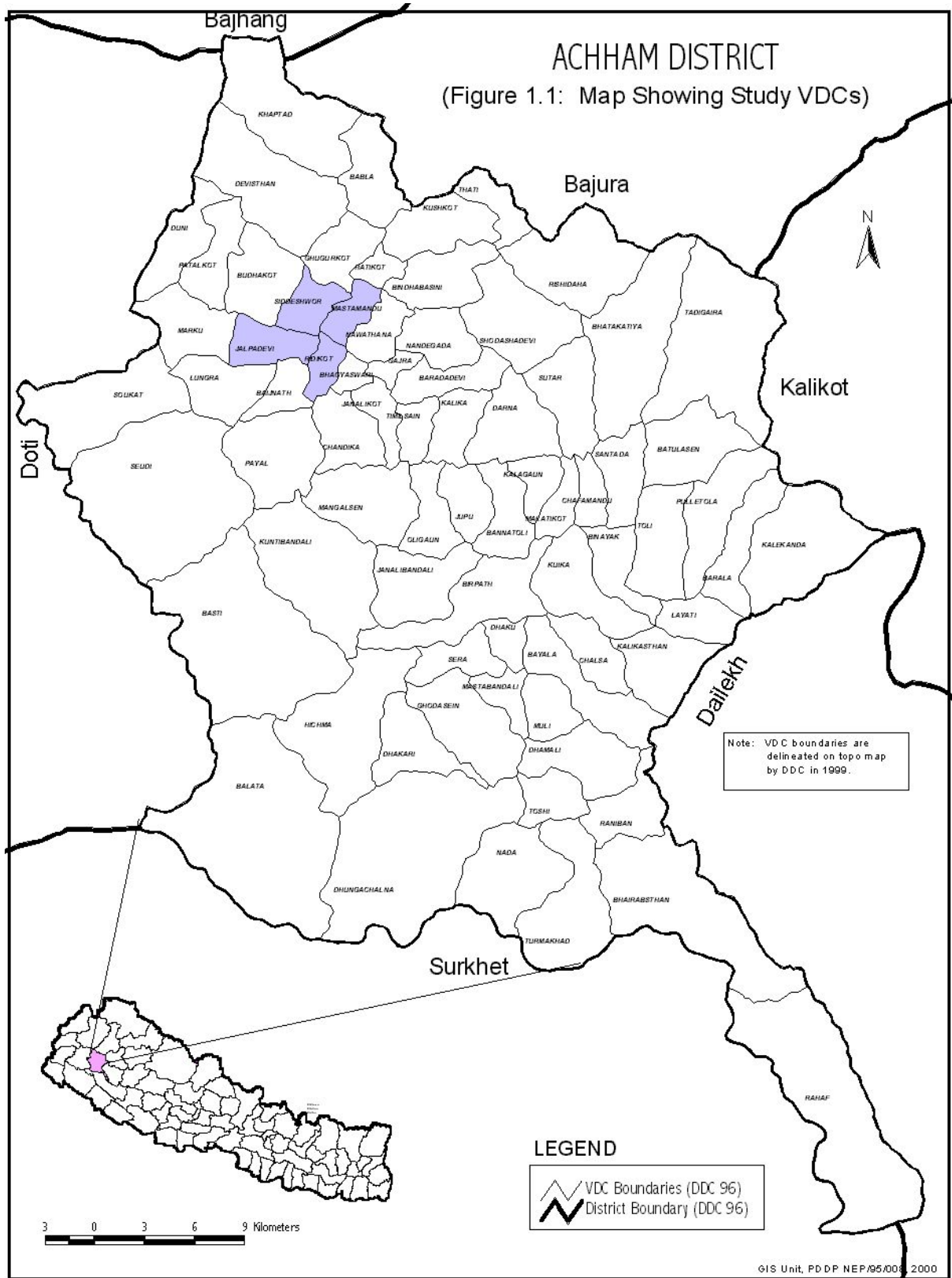
- i. AIDS case data and qualitative reports from health posts and NGOs indicate that Achham district may have a high HIV prevalence rate. This is supported by the fact that migration to India, specifically Mumbai, is also high in the district.
- ii. Because of the rugged terrain and only one passable road in Achham, the proposed study needed to be located near this road for the transport of staff, equipment, and specimens to laboratory facilities. This necessitated that the study take place in Sanfebagar, the market area where the four VDCs converge.
- iii. One of the criteria used in the selection of the four VDCs was their distance from the market area of Sanfebagar. As shown in Table 2.1, two VDCs were less than one hour's walking distance, one in 1-3 hours' and one 2-4 hours' walking distance from the market area (Table 2.1 below).

Table 2.1: Walking Time to Reach the VDC Centers from Sanfebagar Market Area

Sample VDC	Distance in Time to Reach (on Foot)		
	< 1Hrs.	1-3 Hrs.	2-4 Hrs
Mastamandu	*		
Jalpadevi		*	
Ridikot			*
Siddheswor	*		
Total	2	1	1

2.2 Sample size

A total of 610 males aged between 18 and 50 years were randomly selected in the sample from the above four VDCs. In order to ensure large enough samples from both migrant and non-migrant groups within the overall sample size, the numbers in each sub-group was repeatedly tallied throughout the survey. Since the survey revealed sufficient numbers of migrants to India (>30%) in both of these sub-groups, it was not necessary to increase the overall sample size to reach an N of the expected sample size of 610.



This sample size gives the following confidence intervals for the following prevalence levels of HIV/STI.

<u>Level</u>	<u>95% Confidence Interval</u>
1%	(0.2, 1.8)
2%	(0.88, 3.12)
5%	(3.26, 6.74)

2.3 Organization of the Fieldwork

Since the study was designed to include a large number of migrant males returning home during Dashain and Tihar festivals, a considerable amount of effort was made to plan for their wide coverage. For the preparation, the study team carried out a reconnaissance visit in the study site to assess the feasibility status of the survey. During the visits, the team held formal discussions with the District AIDS Coordination Committee (DACC) members and other local counterparts to inform them of the fieldwork in their districts. The team also briefed them about the consent taking process and the method that was to be followed by the teams in the fieldwork. The following paragraphs provide a detailed description of the fieldwork preparation.

2.3.1 Instrument Development

The survey utilized the quantitative method to collect the data. Since the study was designed to collect primary data from the migrant and non-migrant males, a standard DHS model structured questionnaire was designed and pre-tested before its implementation in the actual fieldwork (Volume II, Annex 1). Most of the questions were pre-coded with the exception of "other" categories that were reviewed after the survey for numerical codes to enter into the computers. In addition, the survey also utilized several other specially designed formats to record the information on clinical tests.

2.3.2 Field Team Training and Mobilization

Under the leadership of a project director, a team of nine members was composed for the fieldwork of this study, of whom three were clinical and six non-clinical staff. These staff members were selected from among a regular staff pool of New ERA and SACTS. They were all experienced in field survey work from a number of similar research studies like DHS, Contraceptive Prevalence Rate (CPR) among Married Women of Reproductive Age (MWRA) and STD/HIV among sex workers and truckers. A four-day training program was organized for the field team in New ERA training hall (Sept. 25-28, 200) to familiarize them with the instruments and study methodology.

2.3.3 Involvement of Local Counterparts

The study team selected two local counterparts, Oppressed Class and Women Awareness Center (OCWAC) and Sanfebagar Sewa Samiti (SSS) in Sanfebagar, for a smooth operation of the fieldwork. As part of the training program, a two-day orientation program was organized for these counterparts in the study area before mobilizing them for the fieldwork. Further, these institutions facilitated the study team in setting up a laboratory in a safe place at Sanfebagar.

2.3.4 Study Population and Recruitment Procedure

The sampling units for this study are the male population aged between 18 and 50 years residing in the four selected VDCs. As discussed above, fieldwork took place during the Tihar and Dashain holiday period, specifically, from October 3 to November 11, 2001, in order for the sample to include migrants who have returned home during this period. In this study "migrants" are defined as males who have been outside Nepal for employment and/or study purposes, and "non-migrants" as those who have never been outside Nepal. The recruitment area included all wards and households of the selected VDCs.

The field team randomly selected 800 households out of 2,060 households in the four selected VDCs (Table 2.2). All the male members of the households were told about the study purpose, informed consent procedure, confidentiality and benefits of the study so that they would be willing to participate in the study. They were asked to present voluntarily in the study clinic during study periods over the next few days.

Table 2.2: Description of Samples

Sample Detail	Number
Total number of households in the four study VDCs	2,060
Randomly selected households in the four VDCs	800
Men who came to the clinic voluntarily	616
Men who refused to give interviews, blood or urine	6
Total number of males included in the sample	610

All together 616 males from 800 households came to the clinic voluntarily, and nearly all of them (99%) participated in the study when their queries were adequately answered (Table 2.2). Interviewers, in the presence of a witness, implemented a specially designed oral informed consent form (Volume II, Annex 2) for each participant in a private setting. Confidentiality and anonymity was strictly maintained on all documents, specimens (Volume II, Annex 3) and test results (Volume II, Annex 4) by assigning an ID number without name or address for each participant. Participants were given an ID card (Volume II, Annex 5) for the voluntary collection of their STD results.

2.3.5 Fieldwork and Supervision

Individual interviews, clinical examinations and laboratory activities were carried out in the separate rooms rented in Sanfebagar. Questions on aspects of the socio-demographic profile, presence of STI symptoms, sexual behavior, internal and international migration, awareness of HIV/STDs and condom use were asked in the interview.

After the interview, participants were taken to the clinical room for medical check ups, which included measurement of weight, blood pressure, body temperature and pulse, as well as a genital examination and determination of the presence of any STD. If an illness was suspected from the syndromic assessment, the participant was given free medication as per national guidelines for the treatment of STDs.

Upon completion of the syndromic assessment, the participants moved on to the lab where he was asked to provide freshly voided urine for PCR examination for gonorrhoea and chlamydia,

and then a blood sample was collected for herpes, syphilis and HIV serological testing. Two senior researchers from New ERA and FHI officials regularly supervised the field team to ensure smooth operation of the fieldwork and quality of data.

2.3.6 Storing, Transportation and Testing of the Specimens

In the study site the specimen tubes were logged, capped, labeled and zip-locked every day within the specified time period before being stored in a refrigerator. The refrigeration facility was arranged in the government cold-chain sub-center at Sanfebagar in coordination with the District Health Office (DHO) at Mangalsen, the District Headquarters (DHQ) of Achham. Specimen tubes were packed in a specially designed icebox to be hand-carried on the regular flights from Sanfebagar to Kathmandu, and then to New Dehli.

The clinical tests of the specimens that required immediate results for blood grouping, sugar contents, UTI scan and albumin were carried out immediately in the study site itself by the lab technician. For the testing for HIV, syphilis, gonorrhoea, chlamydia and herpes, the specimens were transported to the central laboratories of SACTS in Kathmandu and then to Auroprobe in New Delhi. Table 2.3 shows the type of illnesses tested and the methods followed for different tests in the three centers.

Table 2.3: Description of Clinical Tests of the Specimens

Infection/Organism	Specimens	Test	Test Lab
1. HIV	Blood	Capillus and Determine	SACTS, Kathmandu
2. Syphilis	Blood	RPR + TPHA	SACTS, Kathmandu
3. Herpes	Blood	ELISA	SACTS, Kathmandu
4. Gonorrhoea	Urine	Gene Probe	Auroprobe, New Delhi
4. Chlamydia	Urine	Gene Probe	Auroprobe, New Delhi
6. Blood grouping	Blood	Cross Matching	Sanfebagar Study Site
7. Sugar content	Urine	Urine Sugar	Sanfebagar Study Site
8. UTI scan	Urine	UTI Scan	Sanfebagar Study Site
9. Albumin	Urine	Urine Albumin	Sanfebagar Study Site

2.4 **Data Recording, Organization and Analysis**

The behavioral data received from the individual interviews was recorded in a specially designed pre-coded structured questionnaire itself. The completed questionnaires were edited manually, first by the supervisor in the field, and then by professional data editors at New ERA.

The cleaned data were entered into the computer using FoxPro software package and later transferred to SPSS/PC Plus files for further analysis. The results have been analyzed using simple statistical tools, such as frequency distribution, range, percentage, proportion, mean and ratio. The clinical data were merged with the behavioral data to reveal differentials on the prevalence rates of the participants of different strata, behavior and background characteristics. Chi square tests and logistic regressions were carried out to assess the extent of relationship between the variables and odds ratio to calculate the extent of risks.

2.5 Presentation

The entire study findings have been presented in two volumes. The first volume deals with the methodology and study findings in the form of texts, tables, graphs and charts, while the second volume presents questionnaires and other relevant documents.

2.6 Ethical Review

A complete set of the study protocol, consent forms and draft questionnaires was submitted for approval to the Nepal Health Research Council (NHRC) and the Protection of Human Subjects Committee of Family Health International (PHSC/FHI). Approval from review bodies of these institutions (Volume II, Annex 6) was obtained before fieldwork commenced.

2.7 Post-test Counseling and Treatment

In accordance with the ethical guidelines, the field team prepared all the necessary logistic arrangements for post-test counseling, individual report dissemination and treatment services to the study participants. However, due to the continued socio-political problems in the area, the team had to cancel its trip and activities were suspended for an indefinite time period.

3.0 MIGRATORY STATUS

This chapter presents information on the migratory status of all the participants (610) surveyed for the study (Table 3.1). The first section of this chapter deals with those who have ever migrated outside Nepal, specifically India (40%), while the second section with those who have never been outside but have moved to other districts within the country for employment and/or study purposes (16%). The data shows that 44 percent of the respondents are non-migrants.

Table 3.1: Study Participants according to the Type of Migration

Migration Type	Distribution of the Participants	
	Number	Percent
International	242	39.7
Internal	100	16.4
Non-migrants	268	43.9
Total	610	100.0

3.1 International Migration

Table 3.2 reveals that more than one-third of all the participants left their villages for India at least once in search of work and/or for study. For them Maharashtra was the most frequently visited destination (55%), followed by Hariyana (20%), Gujrat (16%) and northern parts of India. Very few migrants visited southern or eastern parts of India.

Table 3.2: Migration Destinations

Migration Destination	Migrants	
	Number	Percent
<u>Ever Visited*</u>		
Maharashtra	132	54.5
Mumbai only	91	37.6
Hariyana	48	19.8
Gujrat	39	16.1
UP, Bihar and Uttaranchal	30	12.4
Orrisa and West Bengal	25	10.3
Madhyapradesh and Rajasthan	10	4.1
Assam, Nagaland, Meghalaya and Mizoram	8	3.3
Karnataka	2	0.8
Panjab, Jammu and Kashmir	4	1.6
Andrapradesh, Kerla and Tamilnadu	4	1.6
Total	242*	100.0

Note: *The total adds up to more than the total number of migrants (242) because some of them visited more than one place.

In the sample, the age at first migration of the participants ranges from early childhood to 40 years. The mean age at first migration is calculated to be 20 years. Data shows that nearly one-third of the male migrants had migrated for the first time when they were less than 18 years of age. A little more than half of the migrants (53%) had migrated when they were 18 to 25 years old. A relatively small proportion of migrants (15%) had migrated after the age of 25.

The migration duration ranges from less than a month to 19 years. The mean duration accounts for nearly 4 years. The distribution shows that nearly 25 percent of them stayed in India for less than one year, while the remaining 75 percent stayed there for more than one year for work or study. Most of the migrants were accompanied by friends (40%) and family members other than their wives (41%).

Table 3.3: Distribution of International Migrants by Individual Characteristics

Details	Distribution	
	Number	Percent
<u>Age at First Migration (Yrs)</u>		
< 18	78	32.4
18 -25	127	52.5
> 25	37	15.2
Mean	-	19.7 Years
Median	-	19 Years
<u>Migration Duration</u>		
≤ 12 Months	61	24.9
13 - 60 Months	142	58.8
> 60 Months	39	16.2
Range	-	< 1 - 228 Months
<u>Accompanied by</u>		
Alone	29	12.0
Friends	97	40.1
Wife	10	4.1
Family member other than wife	100	41.3
Other female	2	0.8
Others but not friends	4	1.7
<u>Returned Home Last</u>		
≤ 3 Months	23	9.5
4 -12 Months	41	17.2
1 - 5 Years	111	45.8
> 5 Years	67	27.7
<u>Future Destination of Migration</u>		
Maharashtra	31	26.3
Gujrat	14	45.2
Hariyana	12	37.5
Bihar & UP	2	6.9
Rajasthan	1	12.5
Total	242	100.0

Among the migrants interviewed for this study, over one-fourth (27%) were fresh migrants who had returned to Nepal within the last one-year period, while three-fourths had returned after more than one year. The survey found fewer recent returnees than expected. Only 10 percent of the migrants had returned in the past three months. Among those who returned from India, some would like to go again to different parts of India. The destination-specific differential is presented in last panel of Table 3.3.

3.2 Internal Migrants and Non-Migrants

Of all the internal migrants, a large number (78%) migrated to other districts only once, while the remaining 22 percent migrated two or more times (Table 3.4). The migration duration indicates that a majority of internal migrants (59%) remained there for one to five years, while 17 percent stayed longer than five years and the remaining 25 percent stayed less than one year.

Table 3.4: Distribution of Internal Migration by Individual Characteristics of Migrants

Details	Distribution	
	Number	Percent
<u>Times Migrated</u>		
Once	78	78.0
Twice	12	12.0
More than twice	10	10.0
<u>Places Visited</u>		
Tarai districts	53	53.0
Kathmandu Valley	25	25.0
Other hill districts	20	20.0
Mountain districts	2	2.0
<u>Migration Duration</u>		
< 12 Months	25	25.0
13 - 60 Months	59	59.0
> 60 Months	16	16.6
Total	100	100.0

Data depicted in Table 3.4 indicates that more than half of the internal migrants (53%) visited the Tarai districts, one in four visited the Kathmandu valley and the remaining one-fourth visited other hill and mountain districts.

4.0 BACKGROUND CHARACTERISTICS

This chapter presents information on the socio-demographic characteristics of the participants such as age, marital status, number of children, contraceptive use, education, ethnicity and religion. Moreover, information on drug and alcohol use and the sexual behavior of the study participants is also presented in this chapter.

4.1 Demographic Characteristics

Over half of all the participants were in a highly productive and sexually active age group (18-25 years). However, the differential shows that its proportion was relatively lower for international migrants (36%) than for internal (59%) and non-migrant (62%) sub-groups. The median age across the three sub-groups ranges from 22 to 29 years (Table 4.1).

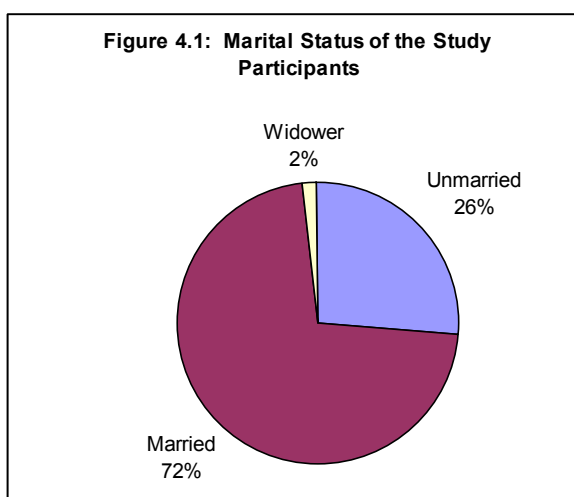
Table 4.1: Percentage Distribution of Respondents by Demographic Characteristics and Migratory Status

Demographic Characteristics	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-migrants	
<u>Current Age (Years)</u>				
18 - 25	35.5	59.0	62.0	51.0
26 – 35	33.0	32.0	22.5	28.2
36 - 50	31.5	9.0	15.5	20.8
Mean	30.8	25.1	25.8	25.8
Median	29.0	23.0	22.0	23.0
<u>Marital Status</u>				
Unmarried	9.9	40.0	35.9	26.3
Married	87.2	60.0	62.9	72.0
Widower	0.8	0.0	0.6	0.6
Divorced/Separated	2.1	0.0	0.6	1.1
Total Cases	242	100	268	610
<u>Age at Marriage (Yrs)</u>				
< 18	31.4	30.9	35.6	31.4
18 - 25	75.5	64.8	62.0	65.3
> 25	3.7	4.3	2.5	3.3
Mean	19.3	19.1	18.7	19.3
Median	19.0	19.0	18.0	19.0
<u>Number of Wives</u>				
One	94.5	95.2	95.8	95.1
Two or more	5.5	4.8	4.2	4.9
<u>Children Ever Born (CEB)</u>				
None/Unmarried	15.7	21.9	20.0	18.2
1 - 2	39.8	48.3	35.0	39.1
3 - 4	29.0	22.4	30.2	28.6
> 4	15.5	7.4	14.7	14.1
Mean	3.0	2.5	3.0	2.9
Total ever Married	218	60	172	450
<u>Current use of contraception</u>				
None	68.1	75.0	75.0	72.8
Pills	1.5	1.0	1.1	1.3
Depoprovera	6.6	5.0	7.1	6.4

Demographic Characteristics	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-migrants	
Condoms	11.2	9.0	7.8	9.3
Norplant	0.4	1.0	0.7	0.6
Sterilization	12.4	9.0	9.3	10.5
Overall CPR among married men*	32.1	25.0	26.0	28.1
Total currently married men	211	60	169	440

Note: *CPR includes modern methods of contraception practiced by currently married men.

Nearly three-fourths of all the participants were currently married and about one-fourth were unmarried. The distribution shows that 87 percent of the international migrants were married. The percentage of married participants in the internal and non-migrant sub-groups is only about 60 to 63 percent. The divorced and widower represented very little or were virtually nonexistent in all three sub-groups. The mean age at marriage of the married respondents is around 19 years.



Most (95%) of the participants were monogamous in terms of marital status. Although the social custom of having more than one wife at the same time is prevalent in the study area, only about five percent of the males in the sample reported to have more than one wife. The differential shows that the proportion with two or more wives was slightly higher among international migrants (6%) than among internal (5%) and non-migrant sub-groups (4%).

Nearly 82 percent of all the participants had had at least one child. The mean number of CEB was nearly three. There was no marked difference in the fertility pattern, but as for the contraceptive prevalence rate (CPR) there was a slight variation across the three sub-groups (Table 4.1). The CPR is 32 percent among the international migrants, which is a little more than that of internal (25%) and non-migrant sub-groups (26%). The method-specific use rate shows that sterilization is on the top (11%), followed by condoms (9%) and injectable contraceptives (6%). Nearly three in four respondents do not use any contraceptive.

4.2 Socio-Economic Characteristics

Table 4.2 shows that 60 percent of all the participants were residents of the rural market area around Sanfegar, while the remaining 40 percent were from inner rural areas that lie in the rugged topography of Ridikot and Jalpadevi VDCs.

Over 85 percent of all the participants have received a formal education from school or college. The distribution shows that over half of the internal migrants (51%) have a college level education. Among the international and non-migrant sub-groups, only around six percent of the respondents received a college level education. These figures indicate that less educated people tend to migrate to India.

As in other parts of Nepal, study area of Achham also has multi-ethnic groups of different religions and racial stock (Table 4.2). Due to the high concentration of *Khas*-Nepali speaking Brahmin, Chhetri and Thakuri ethnic groups residing in the study area, the samples comprised mostly these groups (73%). The representation of these groups was significantly high for internal migrants (88%), followed by non-migrants (73%) and international migrants (66%). The distribution also indicates that a large proportion of occupational caste groups, which accounts for the area's second largest group (22%), reported having frequently visited Indian cities for unskilled seasonal labor, mainly working as porters, gate keepers, factory workers and guards.

Table 4.2: Socio-economic Characteristics of the Participants

Socio-economic Characteristics	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-Migrants	
<u>Residence</u>				
Rural market	54.9	72.0	60.1	60.0
Inner rural areas	45.1	28.0	39.6	40.0
<u>Education</u>				
Never been to school/illiterate	21.9	1.0	11.9	14.3
Primary	23.6	5.0	9.3	14.3
Secondary	47.9	43.0	73.1	58.0
Tertiary	6.6	51.0	5.6	13.4
<u>Ethnicity</u>				
Chhetri/Thakuri	56.6	75.0	62.1	62.0
Brahmin	9.1	13.0	11.1	10.7
Occupational	30.5	6.0	20.7	22.2
Gurung/Tamang/Rai/Limbu	1.0	3.0	2.0	1.8
Other Hill origin	1.6	1.0	2.1	1.7
Other Tarai origin	1.2	2.0	1.9	1.6
<u>Religion</u>				
Hindu	97.6	100.0	98.3	98.3
Buddhist, Islam & Jain	2.4	0.0	1.7	1.7
<u>Birthplace</u>				
Study district	81.9	77.0	83.7	82.0
Outside study district	12.0	19.0	14.0	14.0
India	6.1	4.0	2.3	4.0
<u>Cash Earned (per year Rs.)</u>				
Not at all	4.6	35.0	29.8	20.6
< 24,000	33.8	4.0	20.5	23.1
24,001 - 60,000	52.9	40.0	40.5	45.4
> 60,000	8.7	21.0	9.2	10.9
Total	242	100	268	610

Table 4.2 shows, a large number of study participants (82%) were born in the study district, while the remaining 18 percent were born outside the district although they were currently living in Achham. A small number of them (4%) were born in India. There is no marked difference in the percentage distribution of respondents by place of birth. However, a slightly higher percentage (6%) of international migrants were born in India

The cash income sources of the respondents were mainly agriculture, business, service and wage labor. From these activities the maximum average income per person per year was reported to be more than Rs. 100,000. The distribution shows that international migrants were in a much better position in terms of their cash income because a significantly large proportion of them (61%) earned more than Rs 24,000 per year compared to other groups (Table 4.2). It should be noted that about five percent of the international and 35 percent of the internal migrants do not earn cash at all.

4.3 Behavioral Characteristics

Table 4.3 shows that nearly half of all the participants (50%) were using alcohol. The distribution shows that the proportion using alcohol was slightly higher for international migrants (59%) than for internal (45%) and non-migrant sub-groups (43%).

In the far-western mid-hills, the use of herbal drugs, such as *Ganja*, *Bhang*, *Chares* and *Dhaturo*, is a traditionally developed habit and is socially accepted. As a consequence, a large number of people (40%) in the study area reported that they have used herbal or raw drugs. Surprisingly, their use was much more popular among the international migrants (52%) than among the internal (34%) and non-migrant (32%) sub-groups. However, the use of chemical drugs was negligible in the sample population (Table 4.3).

Table 4.3: Percentage Distribution of Respondents by Consumption of Alcohol and Drugs and Type of Migration

Behavioral Characteristics	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-Migrants	
<u>Use of Alcohol</u>				
Every day	1.2	3.6	2.5	2.2
At least once a week	19.1	12.2	10.5	14.2
Less than a week	38.6	29.0	30.2	33.3
Never	41.1	55.2	56.8	50.3
<u>Use of Drugs</u>				
Chemical	0.3	0.0	0.8	0.5
Herbal/Raw	52.2	34.2	31.9	40.3
Both	0.3	0.0	0.8	0.5
None	47.8	65.8	68.1	59.7
<u>Use of different Chemical Drugs</u>				
Brown sugar	0.3	0.0	0.0	0.1
Phensidyle	0.3	0.0	0.0	0.1
Codine	0.3	0.0	0.0	0.1
Methadone	0.0	0.0	0.4	0.2
Opium	2.5	0.6	0.6	1.4
Heroin	0.3	0.0	0.0	0.1
Sleeping tablets	0.3	0.0	0.0	0.1
Smack	0.3	0.0	0.2	0.2
Nitrocin	0.0	0.0	0.2	0.1
<u>Use of different Herbals Drugs</u>				
<i>Ganja</i>	38.5	17.9	24.9	29.1
<i>Bhang</i>	38.2	18.7	20.5	27.2
<i>Chares</i>	38.2	21.9	24.1	29.3
<i>Chares Oil</i>	0.3	0.0	0.0	0.1
<i>Dhaturo</i>	2.1	0.6	0.7	1.1
Any One	12.9	15.9	8.5	11.5
Any Two	13.7	11.7	8.1	10.9
Any Three	22.7	6.0	14.5	16.3
Any Four or More	2.9	0.6	0.8	1.6
Total	242	100	268	610

Table 4.4 shows the participants' sexual behavior with sex workers and the use of condoms. More than 15 percent of all the participants have had sexual contact with sex workers. The data indicates that sexual contact increases with an increase in the mobility of the respondents. For example, among the non-migrants only five percent had sex with sex workers, while among the internal and international migrants the percentages are 14 and 27 percent respectively. However, in recent years the trend of visiting sex workers has decreased considerably among the international and internal migrants.

Table 4.4: Percentage Distribution of Study Participants by Sexual Behavior with Sex Workers and Type of Migration

Sexual Behavior	Percentage Distribution of			Total
	International Migrants	Internal Migrants	Non-Migrants	
<u>Had sex with a sex worker (SW)</u>				
Yes	27.3	14.0	5.1	15.4
No	72.7	86.0	94.9	84.6
Total sample men	242	100	268	610
<u>Sex with sex worker (in Last 12 Months)</u>				
Yes	12.1	14.3	21.4	14.9
No	87.9	85.7	78.6	85.1
Total men who ever had sex with SW	66	14	14	94
<u>Places of sex with sex workers (Last 12 Months)*</u>				
Hill districts of Nepal	12.5	100.0	100.0	50.0
Tarai districts Nepal	12.5	50.0	50.0	21.4
Maharashtra of India	33.5	0.0	0.0	17.6
Hariyana of India	12.5	0.0	0.0	5.9
Gujarat of India	25.0	0.0	0.0	11.8
<u>Number of sex workers visited (Last 12 Months)</u>				
One	25.0	0.0	33.3	23.5
Two	50.0	66.7	33.3	47.0
Three or more	25.0	33.3	33.3	29.5
Total men who had sex with SW (last 12 month)	8	2	4	14
<u>Accompanied when visiting SW</u>				
Usually alone	30.8	25.5	65.6	35.1
Usually with friends	58.9	63.3	34.4	55.9
Cannot say	10.3	11.2	0.0	9.0
<u>Pressured by friends into visiting SW</u>				
Yes	93.9	85.7	92.9	92.6
No	6.1	14.3	7.1	7.4
Total men who ever had sex with SW	66	14	14	94

Note: *The total adds up to more than 100 because some participants had sex with sex workers in more than one place.

Table 4.4 shows that mobility of the people has strong association with the way they were visiting sex workers. For example, internal (63%) and international migrants (59%) visited sex workers mostly with their friends, while non-migrants visited sex workers mostly alone (66%). However, most of them (86% to 94% of the respondents) reported that their friends pressured them into visiting sex workers.

Table 4.5: Proportion Using Condoms during Last Sex with Sex Workers

Use of Condom (during last sex with sex workers)	Percentage Distribution			
	International	Internal	Non-migrants	Total
Yes	44.7	56.1	60.1	48.6
No	55.3	43.9	39.9	51.4
Total	66	14	14	94

The migratory status has largely differentiated the condom use pattern among the participants (Table 4.5). For example, its use rate was relatively high (60%) during sex with sex workers among the non-migrants, whereas the rate decreased considerably (i.e. from 60% to 56% and 45%) for internal and international migrants respectively.

Table 4.6: Sex with Other Women and Male Sexual Partners

Sexual Behavior	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-Migrants	
<u>Had sex with other women*</u> (Last 12 Months)				
Yes	5.4	12.0	7.5	7.4
No	94.6	88.0	92.5	92.6
<u>Number of other women visited</u> (Last 12 Mnth)				
One	4.1	5.0	6.3	4.9
Two or more	1.2	7.0	1.2	2.5
None	94.6	88.0	92.5	92.6
<u>Use of condom</u> (during Last Sex with other Women)				
Yes	44.5	66.6	38.2	47.4
No	55.5	34.0	61.8	52.6
<u>Had male sexual partner</u>				
Yes	0.3	0.0	0.4	0.3
No	99.7	100.0	99.6	99.7
Total	242	100	268	610

Note: * Other women means other than wife and female sex workers.

Only about seven percent of the participants had sex with other women (non-wife) in the last 12 months (Table 4.5). The differential shows that its proportion was slightly higher for internal migrants (12%) than for non-migrants (8%) and international migrants (5%). The use of condoms during sex with other women was higher for internal migrants (67%) than for non-migrants (38%) and international migrants (45%). Few of the respondents reported that they have male sexual partners.

Table 4.7 shows the participants' condom use pattern during sex with their wives in the last one-month period preceding the survey. As the result indicates, a large number of currently married participants (90%) reported to have had sexual intercourse with their wives at least once during the period. But at that time very few of them (16%) reported to have used

condoms. Among them, only five percent were consistent in their use (using them every time), while nearly 11 percent only used them occasionally. However, a comparison shows that internal migrants were relatively better at maintaining consistency (13%). The data shows that international migrants were better (52%) than internal migrants (7%) and non-migrants (0%) in taking advice from their wives when making decision about condom use.

Table 4.7: Sex with Wife and Condom Use Patterns among the Study Participants

Sexual Behavior	Percentage Distribution			Total
	Inter-national Migrants	Internal Migrants	Non-Migrant	
<u>No. of times having sex with wife (in Last 1 Month)</u>				
Not at all	8.0	20.0	8.3	10.0
1 - 10 Times	46.0	40.0	51.8	46.9
> 10 Times	46.0	40.0	39.9	43.1
<u>Frequency of condom use with wife (Last 1 Month)</u>				
Everytime	3.6	12.5	3.2	4.8
Mostly	7.8	8.3	8.3	8.1
Sometimes	2.6	2.1	3.2	2.8
Never	85.0	77.1	85.1	84.3
<u>Condom use during last sex (with Wife)</u>				
Yes	11.7	15.3	11.9	12.3
No	88.3	84.7	88.1	87.7
<u>Who suggested condom use (Last Sex with Wife)</u>				
Self	48.2	13.7	48.8	42.5
Wife	51.8	6.8	0.0	1.2
Both	0.0	79.5	51.2	56.3
Total of currently married participants	211	60	168	439

Note: N denotes the total number of currently married participants.

5.0 KNOWLEDGE OF HIV/STDs

To assess their knowledge of HIV/STD, the participants were asked several questions concerning sexually transmitted diseases. Over 80 percent of the participants reported that they had heard of at least one STD. The migration-specific differential shows that the internal migrants were highly aware of the illnesses (97%), followed by non-migrants (81%) and international migrants (73%).

Of the five spontaneously reported illnesses (Table 5.1), genital ulcers or sores was the most common among the participants (76%), followed by genital discharge (49%), burning pain on urination (43%), swelling in the groin area (27%) and itching (8%).

Table 5.1: Percentage Distribution of Respondents who are Aware of STDs by Migration Status

Awareness of STD	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-migrants	
<u>Heard of any STD</u>				
Yes	72.3	96.8	80.9	80.1
No	27.7	3.2	19.1	19.9
<u>Disease-specific awareness*</u>				
Genital ulcers/sores	74.5	81.1	75.5	76.3
Genital discharge	47.7	63.5	44.2	49.3
Burning pain on urination	36.5	58.8	41.5	43.1
Swelling in groin area	32.4	32.0	20.4	27.0
Itching in genital area	7.4	18.0	5.6	8.4
Total	242	100	268	610

Note: * The total adds up to more than 100 due to multiple answers.

A vast majority of the participants claimed to have heard of HIV/AIDS (97%). The knowledge is universal among internal migrants (Table 5.2). This is not surprising considering that the area has an extremely high flux of out-migration to Indian cities for seasonal labor every year and the migrants have synonymously used the term HIV infection as “Mumbai disease”.

Over 81 percent of the participants reported that HIV/AIDS is a fatal disease; in fact, the friends and relatives of about one-third (31%) of the participants had already died of the disease.

A large number of participants reported to have some knowledge about HIV transmission routes, like unsafe sexual contact (87%) and spontaneous infection from an infected mother to her newborn baby (84%). This awareness was slightly higher for internal migrants (96%) than for non-migrants (85%) and international migrants (78%).

Table 5.2: Percentage Distribution of Respondents who are Aware of HIV/AIDS by Migration Status

Awareness of HIV/AIDS	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-Migrants	
<u>Heard of HIV/AIDS</u>				
Yes	96.0	100.0	97.0	97.1
No	4.0	0.0	3.0	2.9
<u>Heard of any death/infection due to HIV/AIDS</u>				
Yes	81.7	86.0	78.8	81.2
No	18.3	14.0	21.2	18.8
<u>Heard of death/infection of any relatives/friends due to HIV/AIDS</u>	40.5	24.0	24.3	30.7
Yes	59.5	76.0	75.7	69.3
No				
<u>Awareness of risk of HIV transmission from unsafe sexual contact</u>				
Yes	83.4	97.0	86.8	87.2
No	16.6	3.0	13.2	12.8
<u>Awareness of risk of HIV transmission from infected mother to baby</u>				
Yes	77.5	96.0	84.8	83.8
No	22.5	4.0	15.2	16.2
<u>Awareness of condom use for safe sex</u>				
Yes	80.1	98.0	87.0	86.1
No	19.9	2.0	13.0	13.9
Total	242	100	268	610

The participants were also asked about their awareness of safe sex measures against HIV/STDs. A large number of participants (86%) reported that by using condoms they can protect themselves from being infected with the illnesses. The differential shows that this awareness was higher for internal migrants (98%) than for non-migrants (87%) and international migrants (80%).

Table 5.3 reveals that the level of awareness about the use of condoms was significantly higher for those who were aged between 18 and 25 (92%), unmarried (92%), Chhetri and Brahmin ethnic groups (88%) and educated in school or college (91%). However, the level of awareness was relatively low among older people, occupational caste groups and the illiterate or those who had never been to school. There was no marked difference in the level of awareness between those living in market and non-market areas.

Table 5.3: Distribution of Respondents who are Aware of Condom Use as a Measure for HIV Protection by Socio-demographic Characteristics

Selected Variables	Total Respondents (N)	Participants Knowing about Condom Use against HIV/AIDS	
		Number (n)	Percent
<u>Age (Yrs)</u>			
18-25	311	286	92.0
26-35	172	150	87.2
36-50	127	74	58.3
<u>Ethnicity</u>			
Brahmin/Chhetri	474	418	88.2
Occupational	136	92	66.6
<u>Education *</u>			
Never been to school	85	34	40.0
Educated in school or college	525	476	90.7
<u>Marital Status</u>			
Unmarried	160	147	91.9
Ever married	450	364	80.7
<u>Residence</u>			
Rural market	366	310	84.7
Non-market	244	200	82.0
Total	610	510	83.6

Note: : N denotes the total number of samples.

: n denotes total number of participants knowing about using condoms for safe sex.

: * $P < 0.05$, OR = 0.08 ($0.05 < OR < 0.14$)

Nearly two-thirds (62%) of the participants were exposed to some IEC materials related to HIV/STDs (Table 5.4). The level of exposure was higher for internal migrants (82%) than for non-migrants (63%) and international migrants (51%). Common types of IEC materials and the source of HIV/AIDS information were radio/television (31.6%), newspapers (26%), GOs/INGOs and their field workers (31%) street boards (13.8%) and street drama (11.3%).

The types of messages they got from these sources were related to high-risk sexual behavior, measures to avoid illicit sex, and safe sex measures (Table 5.4). The most frequently reported message they noted from the materials was about using condoms during sex, which accounts for 43 percent.

The migration-specific differential indicates that those who did have international migration exposure were generally less exposed to these materials than their counterparts.

Table 5.4: Level of Exposure to Different IEC Materials on HIV/STDs

Source of Information	Percentage Distribution			Total
	International Migrants	Internal Migrants	Non-migrants	
<u>Seen/heard information on HIV/STD</u>				
Yes	51.1	82.0	63.4	61.6
No	48.9	18.0	36.6	38.4
<u>Sources of information/IEC materials*</u>				
Radio and television	25.2	50.0	31.0	31.6
News papers/magazine	14.0	42.0	29.8	26.0
GO/INGO and their fieldworkers	21.9	40.0	35.8	31.0
Posters/wall papers/street boards	10.7	16.0	15.3	13.8
Street drama	7.0	15.0	13.8	11.3
Friends and neighbors	9.1	2.0	5.6	6.6
<u>Type of information heard/seen about HIV*</u>				
Always use condoms during sex	33.1	53.0	48.1	42.9
Do not have illicit sexual relations	16.5	26.0	21.6	20.3
Do not have sexual relations with many people	9.1	9.0	13.1	10.8
Have sex with a single person	4.6	8.0	6.3	5.9
Do not have sex with a strange person	4.5	12.0	8.2	7.5
Have safe sex	3.3	14.0	4.5	3.9
Avoid unsafe sex	4.1	6.0	1.9	3.4
Do not humiliate HIV victims & their children	0.8	2.0	2.6	1.8
<u>Places where material on HIV/AIDS seen/heard*</u>				
Far- and mid-western mid-hills of Nepal	51.2	74.0	65.7	61.3
Far- and mid-western tarai of Nepal	0.8	15.0	1.1	3.3
Other parts of Nepal	0.0	10.0	0.4	3.1
India	1.7	0.0	0.0	0.6
Information not heard/seen	48.9	18.0	36.6	38.4
Total	242	100	268	610

Source: * Some participants were counted more than once because of their exposure to more than one material.

6.0 PREVALENCE OF STDs AND HIV

This chapter is divided into two parts. The first part presents the overall prevalence rate of six different sexually transmitted diseases (STDs), including HIV infection. It also presents the differentials of the HIV prevalence among international, internal and non-migrant subgroups. The second part deals with the rates among international migrants according to their background characteristics. Since internal and non-migrant sub-groups have very low prevalence rates, their differentials by background variables have not been measured.

6.1 Overall STD Prevalence

Overall, 13 percent of the participants were found to have been infected with at least one of the six different STDs tested in this study area, while 87 percent did not have any infection. The illness-specific differential showed that herpes was the most prevalent illness (8.9%) followed by past syphilis (1.3%), chlamydia (1.1%), gonorrhea (0.7%) and current syphilis (0.5%). In the sample population HIV prevalence was 2.3 percent.

Migration-specific differentials indicate that international migrants have the highest rate of prevalence of all these illnesses, followed by non-migrants and internal migrants. More specifically, the prevalence of HIV is significantly associated with the migratory status of the people. To some extent, herpes and HIV were found among all the three sub-groups, while syphilis, gonorrhea and chlamydia did not occur at all among the internal migrants. The illness-specific prevalence rates among the three sub-groups are presented in Table 6.1.

Table 6.1: Prevalence of STD and HIV among International, Internal and Non-Migrants

STD Infection	Prevalence of STDs and HIV			Overall	
	International Migrants	Internal Migrants	Non-Migrants	N	%
	%	%	%		
HIV*	3.7	3.0	0.7	14	2.3
Current syphilis	0.8	0.0	0.4	3	0.5
Treated syphilis	2.5	0.0	0.8	8	1.3
Gonorrhea	1.2	0.0	0.8	4	0.7
Chlamydia	1.2	0.0	1.5	7	1.1
Herpes*	13.6	5.0	5.6	53	8.9
Any STD*	19.4	8.0	8.9	79	13.0
Total Sample	242	100	268	610	

Note: N denotes the total number of participants infected with the illnesses.

: * $P < 0.05$

The prevalence of the six different types of STDs was analyzed according to the eight different socio-demographic characteristics of the study population (Table 6.2). The analysis shows that the prevalence of these illnesses was generally higher among those who are or had been married, the aged, and residents of the non-market rural area around Sanfebagar valleys. The result also shows that the prevalence of the diseases has an inverse relation with

education because the extent of illnesses has generally decreased with the increase of the educational attainment level.

Table 6.2: Relationship between Socio-Demographic Variables and STDs

Socio-demographic Variables	Total Sample	Proportion of Participants Infected with						
		HIV	Current Syphilis	Past Syphilis	Gonorrhea	Chlamydia	Herpes	Any STD
<u>Age (Yrs)</u>								
18-25	311	0.6	0.3	1.0	0.6	1.0	2.3	5.8
26-35	172	4.1	1.2	2.9	0.0	1.2	11.0	16.3
36-50	127	3.9	0.0	0.0	1.6	1.6	21.3	25.2
<u>Marital Status</u>								
Unmarried	160	0.6	0.0	1.3	0.6	0.6	0.6	4.3
Ever married	450	2.9	0.7	1.3	0.7	1.3	11.6	16.0
<u>Residence</u>								
Rural-market	366	1.1	0.8	1.4	0.5	1.4	7.4	12.3
Non-market Area	244	4.1	0.0	1.2	0.8	0.8	10.7	13.9
<u>Education</u>								
Never been to school	85	5.9	1.2	3.5	2.4	2.3	17.6	23.5
Grade 1-5	88	3.4	1.1	0.0	1.1	0.0	13.6	19.3
Grade 6 -10	437	1.4	0.2	1.1	0.2	1.1	5.9	9.6
<u>Ethnicity</u>								
Chhetri/Brahmin	474	2.3	0.4	1.3	1.3	1.1	7.4	11.4
Occupational	136	2.2	0.7	1.5	0.7	1.5	13.2	18.5
<u>Use of alcohol</u>								
Once a week or more	99	4.0	1.0	1.0	1.0	3.0	20.2	28.3
Less than a week	203	3.0	0.5	2.0	1.5	1.5	9.4	14.8
Never	308	1.3	0.3	1.0	0.3	0.3	4.9	6.8
<u>Ever Use of Drugs</u>								
Yes	246	2.8	0.8	1.6	0.4	2.0	10.2	15.4
No	364	1.9	0.3	1.1	0.5	0.5	7.7	11.3
<u>Ever had sex with sex worker</u>								
Yes	94	4.3	1.1	3.2	2.1	1.1	18.1	26.6
No	516	1.9	0.4	1.0	0.4	1.2	3.1	10.5
Total	610	2.3	0.5	1.3	0.7	1.1	8.9	13.0

A comparison of the two broad ethnic groups shows that the occupational caste group has encountered the illnesses to a greater extent than Chhetri and Brahmin ethnic groups. This was due to the indiscriminate and unsafe sexual practices of the occupational caste groups of the area, which includes Kami, Sharkis and Bitulo. This is further supported by the fact (Figure 6.1) that those who have ever had sex with sex workers have higher rate of infections of these illnesses (26.6%). In the sample, about 15.4 percent of the respondents reported that they had had sex with sex workers. In other words, one in every four participants with such high-risk sexual behavior has an infection of at least one of the STDs.

The odds ratios show that with the exception of the residence, an infection with at least one or more STD was associated with most of the selected background variables. But as for HIV, it is associated only with age, residence and education (Table 6.3).

Table 6.3: Significance Level of the Relationship between HIV, STDs and Selected Background Variables

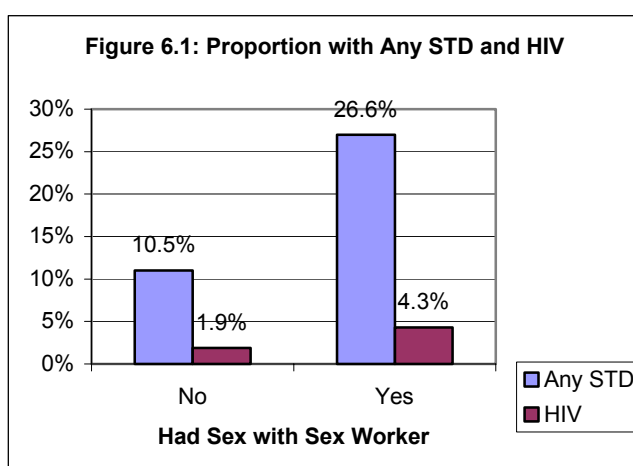
Selected Variables	Total Sample	HIV		Any STD	
		Percent	OR (95% C. I.)	Percent	OR (95% C. I.)
<u>Age (Yrs)</u>					
≤ 25	311	0.6	-	5.8	-
>25	299	4.0	6.46 (1.36-42.14)	20.4	4.27 (2.33-7.54)
<u>Marital Status</u>					
Unmarried	160	0.6	-	4.3	-
Ever married	450	2.9	4.74 (0.64-97.87)	16.0	4.16 (1.8-10.12)
<u>Residence</u>					
Rural-market	366	1.1	-	12.3	-
Non-market Area	244	4.1	3.87 (1.10-14.81)	13.9	1.15 (0.70-1.91)
<u>Education</u>					
Never been to school	85	5.9	3.58 (1.02-12.08)	23.5	2.43 (1.32-4.45)
Attended school	525	1.7	-	11.2	-
<u>Ethnicity</u>					
Chhetri/Brahmin	474	2.3	1.05 (0.27-4.83)	11.4	-
Occupational	136	2.2	-	18.5	1.75 (1.01-3.03)
<u>Use of Alcohol</u>					
Ever used	302	3.3	2.6 (0.74-9.96)	19.2	-
Never used	308	1.3	-	6.8	1.94 (1.16-3.27)
<u>Ever had sex with SW</u>					
Yes	94	4.3	2.25 (0.58-8.01)	26.6	3.10 (1.75-5.48)
No	516	1.9	-	10.5	-
Total	610	2.3	-	13.0	-

Note: - denotes reference category

An analysis of behavioral factors shows that the alcohol users have a relatively higher rate of prevalence of illness than the non-users. But the risk of HIV infection does not differ significantly by the status of alcohol use.

6.2 HIV Differentials among International Migrants

During the survey international migrants were asked about the duration they stayed outside the country, their last destination and the date on which they returned Nepal. Using this information, prevalence of HIV was calculated by the duration, destination of migration and last date of return to Nepal. As Table 6.4 shows, the HIV prevalence rate was strongly associated with the duration they stayed outside the country because the rate was significantly higher for those who stayed there for more than five years (12.8%) than for those who stayed for less than five years (2%).



The analysis also shows that the prevalence rate differs pronouncedly by the places visited by the migrants. For example, those who visited Mumbai and other cities have the highest rate of HIV infection (8.0%), followed by those who visited Mumbai only (7.7%), and other cities only (2.0%). It also shows that nearly four-fifths (78%) of all the HIV infected people have visited Mumbai.

Table 6.4: Relationship between the Migratory Profile and HIV Prevalence among International Migrants

Migratory Characteristics	Total Sample	Participants Infected with HIV	
		Number	Percent
<u>Migration duration</u>			
≤ 5 Years	203	4	2.0
> 5 Years	39	5	12.8
<u>Migration destination</u> (ever)			
Mumbai only	65	5	7.7
Mumbai and other places	25	2	8.0
Other Places	152	2	1.3
<u>Returned to Nepal in the last</u>			
≤ 12 Months	64	5	7.8
13 - 60 Months	111	4	3.6
> 60 Months	67	0	0.0
Total	242	9	3.7

Similarly, the prevalence rate was generally higher for those who returned Nepal in the last one-year period (7.8%) compared to those who returned earlier than that (3.6%). As the data shows, there was no HIV infection among the migrants who returned Nepal five years before. These results confirm that the HIV epidemic among the migrants was spread only after the mid-nineties, although the rate was higher (12.8%) for the migrants of longer migration duration (>5 years).

Table 6.5: HIV Differentials among the Recent and Past Migrants

Migration Destination	Visited within the Last Two Years			Visited Two Years Before			Total		
	Total Sample	HIV Cases	%	Total Sample	HIV Cases	%	Total Sample	HIV Cases	%
Mumbai only	37	5	13.5	28	0.0	0.0	65	5	7.7
Mumbai and other places	18	1	5.5	7	1	14.3	25	2	8.0
Other places only	81	3	3.6	71	0.0	0.0	152	2	1.3
Total	136	9	6.6	106	1	0.9	242	9	3.7

Table 6.5 shows that HIV infection was found only among recent migrants who migrated within the last two years. For example, the rate was very high (13.5%) for those who went to Mumbai within the last two years, but as for those who went there two years before, it was nil. The same pattern can be seen for those who visited other places.

Among a total of 242 international migrants, nearly 19 percent had at least one STD, of which 15 percent were infected with HIV. However, the HIV infection rate was low (1%) among those who did not have any STD (Figure 6.2). This finding indicates that HIV infection was significantly associated with STDs. However, since the numbers of cases were too small for each individual illness, available data do not suggest an assessment of relationship between HIV infection and a particular STD (Table 6.6).

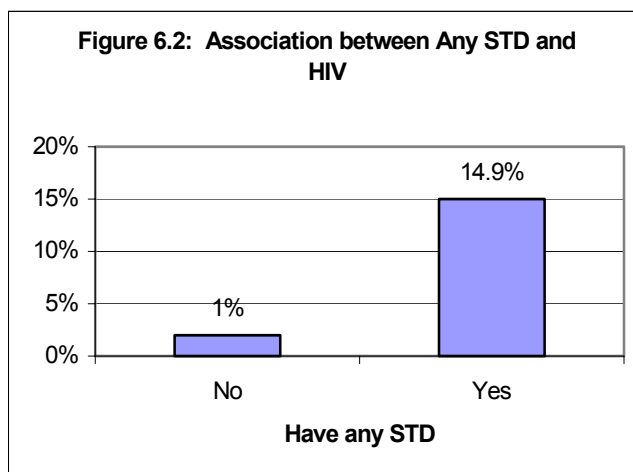


Table 6.6: Relationship between STDs and HIV Positive among International Migrants

STD infection	N	HIV Infection	
		n **	%
Any STD	47	7	14.9 *
No STD	195	2	1.0
Active syphilis	1	1	100.0
Treated syphilis	6	3	50.0
Gonorrhea	3	2	67.0
Chlamydia	3	0	0.0
Herpes	33	3	9.1

Note: N denotes total number of participants infected with particular illnesses.
 : n denotes total number of participants infected with HIV.
 : *P< 0.05 OR 16.89 (3.05 <OR < 122.61)
 : **Due to multiple infections some of the cases were counted more than once.

Table 6.7 presents the relationship between HIV positive cases and selected background variables of the international migrants. The results indicate that HIV prevalence was moderately related with the age of the migrants. This means that the prevalence rate among the younger participants was slightly lower (3.6%) than that among the older participants (3.9%).

As the table reveals, HIV infection was prevalent only among males who were or had at one time been married. The result also indicates that international migrants from inner rural areas have a relatively higher rate of HIV infection (5.5%) than those living in the rural market areas (2.3%). However, the infection was low among the international migrants who had a secondary-plus education compared to their counterparts (Table 6.7).

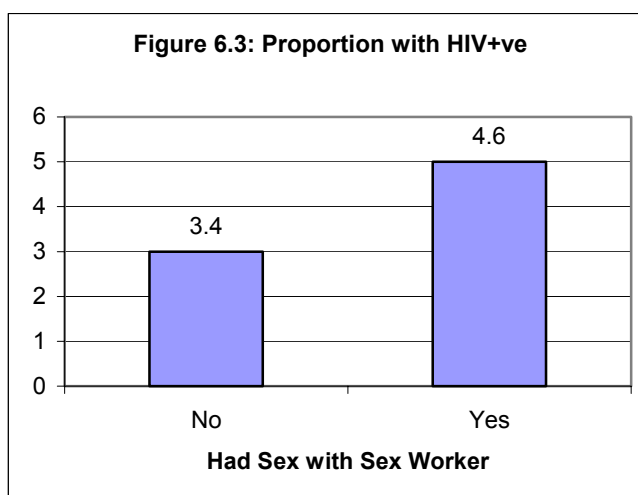
Ethnicity does not seem to be the major factor of HIV infection. For instance, there is only a small difference in the percentage of infected migrants among Chhetri/Brahmin (3.4%) and occupational caste group (4.1%).

Table 6.7: Prevalence of HIV by Selected Socio-demographic Characteristics of International Migrants

Background Variables	Total Sample	International Migrants with HIV +ve	
		Number	Percent
<u>Current Age (Yrs)</u>			
18-35	166	6	3.6
36-50	76	3	3.9
<u>Marital Status</u>			
Unmarried	24	0	0.0
Ever married	218	9	4.1
<u>Residence</u>			
Rural market area	133	3	2.3
Inner rural area	109	6	5.5
<u>Education</u>			
Primary or below	110	6	5.5
Secondary plus	132	3	2.3
<u>Ethnicity</u>			
Chhetri and Brahmin	168	6	3.4
Occupational caste group	74	3	4.1
Total Sample	242	9	3.7

The HIV infection rate was much higher among those migrants who drank alcohol daily or at least once a week, whereas it was lower (1%) among the migrants who never drank (Table 6.8).

About 27 percent of the international migrants reported having sex with sex workers. In this group of migrants HIV infection was higher (4.6%) than for the group who had never had sex with sex workers (3.4%).



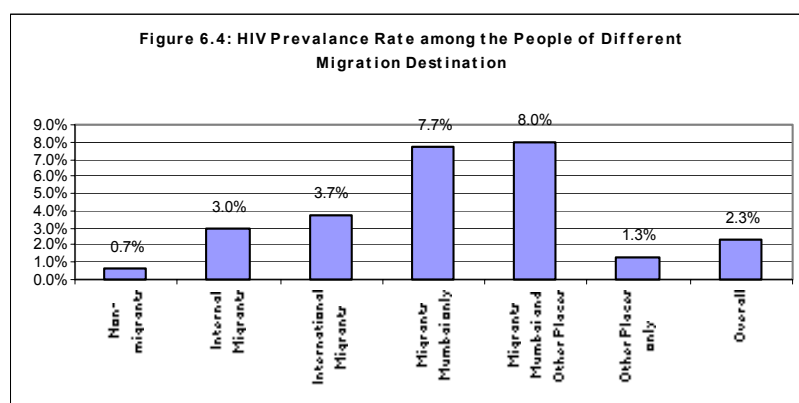
The analysis shows that for those who used herbal drugs HIV infection was almost double (4.8%) that of their counterparts. Use of chemical drugs by injection was virtually non-existent among the study participants.

Table 6.8: Prevalence of HIV by Behavioral Characteristics of International Migrants

Behavior	Total Sample	HIV +ve	
		Number	%
<u>Use of Alcohol</u>			
At least once a week	49	2	4.1
Less than one a week	94	6	6.4
Never	99	1	1.0
<u>Use of drugs (Herbal)</u>			
Yes	126	6	4.8
No	116	3	2.6
<u>Sex with sex worker</u>			
Yes	66	3	4.6
No	176	6	3.4
Total Sample	242	9	3.7

:*P < 0.05

As the results indicate, the HIV epidemic was prevalent even among the non-migrant males of the study area (0.7%). This rate has gradually increased with the increase of their mobility from within the country (3%) to outside Nepal (3.7%).



Among the international migrants, the rate largely varied according to the places they visited. As Figure 6.4 shows, HIV prevalence was extremely high among those who migrated to Mumbai (7.7%). The rate was very low among those who visited other places of India (1.3%). The overall rate was 2.3 percent among all the study participants.

7.0 ASSESSMENT OF RISK

The analysis results presented in the preceding chapter have provided information on the prevalence rate of HIV infection among migrant and non-migrant males. The association of the illness with each of the risk behaviors and background characteristics is separately presented in the relevant sections. However, the increase of the HIV risk might in reality be due to multiple factors. Hence, this chapter focuses on those factors and presents the extent of risk.

7.1 Probability of Risk

As the odds ratio reveals (Table 7.1), the participants who had sex with sex workers are three times more likely to be infected with an STD than those who never had sex with a sex worker.

Though there was no significant relationship between sex with sex workers and HIV infection, its infection was strongly associated with STDs. This indicates some sort of implicit relationship between high-risk sexual behavior and HIV infection

Table 7.1: Sex with Sex Workers and STD Infection

Participants	Proportion of Participants Infected With an STD	
	No	Yes
Ever Had Sex with Sex Worker		
No	462 (89.5%)	54 (10.5%)
Yes	69 (73.4%)	25 (26.6%)

$P < 0.05$ OR = 3.10 (1.75 < OR < 5.48)

The analysis indicates that international migrants who were infected with an STD were much more likely (17 times) to become infected with the HIV virus than those who did not have an STD. This is shown in Table 7.2.

Table 7.2: Infection with an STD and HIV +ve

Participants	Proportion of International Migrants Infected With HIV	
	No	Yes
Infected with any STD		
No	193 (99.0%)	2 (1.0%)
Yes	40 (85.1%)	7 (14.9%)

$P < 0.05$, OR = 16.9 (3.05 < OR < 122.61).

Due to the extent of their involvement with sex workers (27%) and high rate of STDs (19.4%), international migrants have a higher rate of HIV infection (3.7%) than non-migrant sub-groups (Table 7.3). The rate was much higher among those who visited Mumbai (7.7%) and spent a longer time (>5Yrs) in India (13%). These figures are statistically significant. This could be due to the possibility that the HIV epidemic is relatively more widespread among the sex workers in Mumbai and the migrants during intercourse with them did not take any safe sex measures.

Table 7.3: Involvement in Sex with Sex Workers and the HIV/STI Infection Rate

Migrants	Total Sample	Number Visiting Sex Workers		Number with Any STD		Number with HIV	
	N	n	As % of N	n	As % of N	n	As % of N
International	242	66	27.3	47	19.4	9	3.7
Internal	100	14	14.0	8	8.0	3	3.0
Non-migrant	268	14	5.2	24	10.0	2	0.7
Total	610	94	15.4	79	13.0	14	2.3

Note: N denotes the total sample.
: n denotes the total number of participants with particular events.

Hence, as the odds ratio (Table 7.4) indicates, the migrants visiting Mumbai were four times more likely to be HIV positive than those who did not visit there.

Table 7.4: Migration to Mumbai and other Places and HIV Infection

Participants	Proportion of Participants Infected With HIV	
	No	Yes
Migrated to Mumbai		
No	148 (98.01%)	3 (1.99%)
Yes	84 (92.3%)	7 (7.7%)

$P < 0.05$, $OR = 4.11$ ($0.93 < OR < 20.67$).

The analysis indicates that enrollment in an academic institution has an inverse association with HIV infection. As Table 7.5 shows, the people who have never been to school or college have nearly four times the risk of HIV infection compared with those who had been enrolled in an academic institution.

Table 7.5: School Attendance and HIV Infection

Participants	Proportion of Participants Infected With HIV	
	No	Yes
Ever attended school or college		
No	516 (98.3%)	9 (1.7%)
Yes	80 (94.1%)	5 (5.9%)

$P < 0.05$, $OR = 3.58$ ($1.02 < OR < 12.08$).

7.2 Risk of HIV Transmission

Questions about marital status and current use of condoms were asked to assess the extent of the HIV/STI transmission risk from infected to non-infected partners. Table 7.6 shows that there was an extremely high risk of HIV transmission from these infected migrants to their non-migrant wives because none of them had used condoms since their return.

Even among internal and non-migrant HIV +ve participants, condom use was virtually non-existent, although they were aware of its use as a means of safe sex. Though the current HIV prevalence rate of the area is only two percent, this finding indicates that the epidemic is becoming rapidly widespread in the entire area.

Table 7.6: Awareness of Safe Sex Measures and Condom Use Patterns among HIV Positive Participants

Migratory Status	Number Infected with HIV	Participants Aware of Condom Use for Safe Sex		Number Currently Using Condoms with Partners/ Wives
		N	As % of Number Infected	
International	9	7	77.8	None
Inter-regional	3	3	100.0	None
Non-migrants	2	2	100.0	None
Total	14	12	85.7	None

Note: N denotes the total number of participants who are aware of condom use for safe sex.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

One in every eight male members of the study area was found to be currently infected with at least one of the six different STDs tested in this study, and this has a positive correlation with the HIV epidemic.

Herpes was the most prevalent STD among the study participants (8.9%), and its occurrence was highest among international migrants (13.6%).

The use of chemical drugs among the study participants was virtually nil. However, the use of unprocessed herbal drugs, such as *Ganja*, *Bhang*, *Dhaturo* and *Chares*, was highly prevalent among the study participants (40%). The use rate was highest among the international migrants (52%). However, this has no positive correlation with HIV infection.

The use of alcohol during migration was more frequent among HIV infected participants than among their non-infected counterparts.

The HIV epidemic was more prevalent among those who migrated to India from remote rural corners (5.5%) than among those who migrated from the market area (2.3%).

The HIV epidemic among the male migrants was spread only after mid-nineties, and the prevalence rate is now highest among the people of longer migration duration.

Involvement in sex with sex workers was nearly six times more prevalent among the international migrants (27%) than among their non-migrant counterparts (5%), whereas their condom use pattern during sex with sex workers exhibits an opposing trend.

During international migration periods the participants usually visit sex workers with friends, while during non-migration periods they usually visit them alone.

HIV positive cases were found even among non-migrant males of the study area (0.7%). This rate gradually increases with the increase of their mobility to internal (3%) and international destinations (3.7%).

A huge amount of migration flow from the study area (55%) was oriented towards Maharashtra of India in search of work and/or study, of whom over one-third visited Mumbai. And among the Mumbai visitors nearly one in every twelve males (7.7%) was found to be HIV positive. The rate was much higher (13.5%) among those who visited there in recent years.

The risk of HIV transmission from infected males to non-infected partners was extremely high in the study area, because ever since their returned from India none of the HIV infected migrant males were using condoms during sex with their wives. Condom use was virtually nil even among the internal and non-migrant HIV positive participants even though they knew that condoms should be used for safe sex.

8.2 Recommendations

- Efforts should be directed towards the periodic identification and monitoring of migrants returning from Maharashtra, specifically Mumbai, and Haryana, Gujarat and Orissa of India. These migrants should be targeted for HIV/STD control and awareness programs that include rapid diagnosis, couple-counseling and treatment activities.
- The outreach and awareness program should focus on extremely high extent of HIV/STD risk from sex with sex workers in India, especially in Mumbai.
- An intensive educational program should be implemented regarding the consistent use of condoms during sex with sex workers in both India and Nepal.
- The intervention program should be implemented concomitantly in both Nepal and India, targeting the concentrated settlements of commercial sex workers and migration destinations.
- An in-depth study of the extramarital, multiple, exogamous and/or illicit sexual behavior of the local people of the area should be carried out before formulating future intervention programs.

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