

**HIV/STD Prevalence and
Risk Factors among Migrant and
Non-Migrant Males of KAILALI Districts in
Far-Western Nepal**

**VOLUME - I
Main Text**

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~ New ERA Study Team ~

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EXECUTIVE SUMMARY

This study was carried out to determine HIV/STI prevalence rates among both migrant and non-migrant males from two VDCs of Kailali district in far-western Nepal. It was further set up to measure the extent of relationship between the rates and risk behaviors 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 oral informed consent was taken before conducting 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-demographic characteristics and behaviors. Half of them were the international migrants who had migrated outside Nepal, specifically Uttaranchal and Maharastra of India, while the other half were non-migrants who had no international migratory exposure but moved to other districts within the country for employment and/or for study purposes.

Nearly half of the total participants were in a highly productive and reproductive age group (18-25 Years). However, the proportion of participants in this age group was relatively lower for international migrants (42%) than for non-migrants (54%). The mean number of children born to them was nearly three, while the contraceptive prevalence rate was over 50 percent. The method-specific use rate shows that condoms were on top, followed by sterilization and injections.

The proportions having formal educational attainment was much higher for international migrants (77%) than for non-migrants (69%). Tharu (42%), Chhetri/Thakuri (27%) and Brahmin (20%) were the three major ethnic groups in the sample.

Alcohol use was a common habit among a large number of study participants. But as for drug use, they were using only unprocessed herbal drugs like *Ganja*, *Bhang*, *Chares* and *Dhaturo*. More than 12% of the total participants had had sexual contact with sex workers. The involvement in this behavior was relatively higher for international migrants (20%) compared to their non-migrant counterparts (4%). Similarly, as for condom use during intercourse with sex workers, its use rate was also higher for international migrants. During international migration the participants visited sex workers mostly with their friends, while during non-migratory periods they usually visited them alone.

About three-fourths of the participants reported that they had heard of at least one STD. However, there was no marked difference in this awareness between the two counterparts. Genital ulcers were the most frequently reported disease among the respondents.

A vast majority of the participants claimed to have heard of HIV/AIDS (79%), and that relatives of about one-third of them died of it. A large number of participants reported to have some knowledge about HIV transmission routes like multiple and unsafe sexual contacts (73%) and spontaneous infection from an already infected mother to her newly born baby (72%). This awareness was slightly higher for non-migrants (74%) than for international migrants (70%). Over three-fourths of the participants reported that with the use of condoms they could protect themselves from being infected with the illnesses. This awareness was slightly higher for non-migrants, and the younger and the unmarried participants.

Nearly two-thirds (63%) of the participants were exposed to some IEC materials related to HIV/STDs. The level of exposure to these materials was slightly higher for non-migrants (67%) than for

international migrants (60%). The types of IEC materials which they exposed to included radio, television, newspapers, GO/INGO fieldworkers, posters, wall papers, street boards and street drama. The main message they got from these sources was related to high-risk sexual behavior: to avoid heterosexual contact or to employ safe sex measures.

The overall HIV prevalence rate among the total study participants was less than one percent (0.3%). The differentials showed that this disease was found only among international migrants. The result indicates that this disease was transmitted to them from sex with sex workers in Mumbai.

The illnesses-specific differentials showed that herpes was the most highly prevalent illness (4.8%) followed by chlamydia (0.7%) syphilis (0.5%), HIV (0.3%) and gonorrhea (0.3%). Overall, 7 percent of the participants were infected with at least one of the six different STDs tested in this study. The differentials showed that the international migrants have all these illnesses, while among non-migrants only herpes, syphilis and chlamydia were found.

The extent of HIV/STI transmission from infected to non-infected partners was extremely high among the international migrants, because since their return from India none of these HIV infected participants were using condoms during sexual intercourse with their wives.

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 more than 2000 cases (NCASC, 2001). The NCASC records also show that in 82 percent of the HIV positive 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 conditions 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 infection (STI) such as syphilis, gonorrhoea, chlamydia or 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 cheques are cashed, drinks purchased and commercial sex workers are readily available. Migrants, due to poverty and unemployment, are more vulnerable to such high-risk behavior and are more likely to become infected. These conditions largely apply to the Nepali male migrants in western Nepal.

In Kailali district, poverty has caused a great number of men to migrate to India for temporary employment. However, in absence of authentic data, it is difficult to ascertain as to what extent the illness is prevalent among this high-risk group. 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 the high-risk groups in the country. For the continuation of these efforts, New ERA carried out this study with much 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 rates of HIV and selected STIs among the people of different categories, and their relation 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 (VDCs) in Kailali district. The specific objectives are to:

- Assess HIV/STI prevalence among 18 to 50 year-old males in two VDCs of Kailali district;
- 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 a cross-sectional research design to reveal prevalence rates of diseases and risk behaviors of the people of different strata and socio-demographic characteristics. To a large extent, it has used a structured questionnaire as its source for information. The instrument collected only quantifiable data on incidences and behaviors among migrant and non-migrant people. As a consequence, there was very limited flexibility left to explain the findings qualitatively.

The findings presented here are representative only of the two study VDCs of Kailali district. They cannot be generalized to other parts of Kailali district or to the whole district.

The behavioral and clinical data were collected from the male population aged between 18 and 50 years. Therefore, this sample will not allow us to estimate the rate of peri-natal transmission of the diseases. Further, since the present research study was designed to focus more on the prevalent rates of the illnesses and sexual behavior of the migrants, the report has limited information on the other transmission routes.

The data on the health indicators were collected only from males. As a consequence, the findings from this study will not provide a base to formulate future programs for females.

Despite the best of efforts made to adopt a proper random sampling method, the field team could not follow it in a fully scientific manner because some of the ethical norms restrained them. As the field teams had to strictly maintain anonymity, they could not prepare a name-list of the participants. There was also difficulty in preparing a proper sampling frame for migrants who were only expected to return to their homes and be included in the sample. However, the complete enumeration at the household and non-invasive random method followed at the clinic levels has covered a large sample size, which represents various ethnic groups and the people of different strata and socio-demographic characteristics.

2.0 METHODOLOGY

2.1 Study Area

Two Village Development Committees (VDCs), Sandepani and Darakh, were selected as the study area of Kailali district in far-western Nepal. The area lies in the district's central part (Figure 1.1). These VDCs were purposively selected on the basis of access to transportation facilities, proximity to and from the study clinic and rapport building of the local counterparts with the study area people. More importantly, the principle factor taken into account was the availability of local support and government health post for setting up a mobile lab where the blood and urine specimens could be collected and stored appropriately before being transported to Kathmandu for laboratory testing.

2.2 Sample size

A total of 610 males aged between 18 and 50 years were selected in the sample from the above two VDCs. In order to make the study findings comparable, a quota sampling method was followed, in which 308 males were selected from migrant and another 302 from non-migrant sub-groups. In order

to ensure equal ratio of the samples for both of the sub-groups within the overall sample size; the numbers in each sub-group were repeatedly tallied throughout the survey.

This sample size gives the following confidence intervals for the following prevalence levels:

<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 for the 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 to the study site to assess the feasibility status of the survey. During the visits, the team had a formal discussion with the District AIDS Coordination Committee (DACC) members and other local counterparts to inform them of the fieldwork in their district. 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 detailed descriptions of the fieldwork preparation.

2.3.1 Instrument Development

The survey utilized the quantitative method to collect data from the field for this study. 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 the "other" categories that were reviewed after the survey so that they could be assigned numerical codes for entry into the computers. In addition, the survey also utilized several other specially designed formats to record the information on clinical aspects.

Figure 1.1: Map of Kailali District Showing Study VDCs



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 for 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 who were experienced in field survey from a number of similar research studies like DHS, Contraceptive Prevalence Rate (CPR) among Married Women of Reproductive Age (MWRA) and STI/HIV among sex workers and truckers. A four-day training program was organized for the field team in the New ERA training hall (Sept. 25-28, 2001) to familiarize the team with the instruments and study methodology.

2.3.3 Involvement of Local Counterparts

The study team, in association with the district office of the Nepal Red Cross Society (NRCS), carried out fieldwork for this study. As a part of the training program, a two-day orientation program was organized for the staff members of NRCS in the study area before mobilizing them for the fieldwork. Further, NRCS facilitated the study team to set up a laboratory in Sandepani HP and arranged refrigeration facilities in its central lab in Dhangadhi for safe storing of the clinical specimens.

2.3.4 Study Population and Recruitment Procedures

The sampling units for this study are the male populations aged between 18 and 50 years residing in the two selected VDCs. Fieldwork took place during the Tihar and Dashain festivals, specifically, from October 3 to November 21, 2001, in order for the sample to include migrants who returned home during this period. In the sample, "migrants" were defined as the male members who have, at any time, 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.

Table 2.1: Description of Samples

Sample Detail	Number
Randomly selected households in two VDCs	800
Men who came to the clinic voluntarily	612
Men who refused to give an interview, blood or urine	2
Total number of males included in the sample	610

The field team randomly selected 800 households out of a total of 2,447 households in the two VDCs. All the male members of the households were told about the study purpose, informed consent procedure, confidentiality and benefits of participating in the present study so that all men would participate in the study. They were asked to present voluntarily in the study clinic during study periods over the next few days.

Altogether 612 males from 800 households came to the clinic voluntarily, and almost all of them participated in the study when their queries were adequately answered (Table 2.1). The interviewer, in the presence of a witness, implemented an especially 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) with the assignment of an ID number without name or address for each participant. Participants were given an ID card (Volume II, Annex 5) for the collection of their STI results.

2.3.5 Fieldwork and Supervision

Individual interviews, clinical examinations and laboratory activities were carried out in separate rooms of the health post in Sandepani. Questions on aspects of the socio-demographic profile, the

presence of STI symptoms, sexual behavior, intra- and international migration, awareness of HIV/STIs and condom use were asked in the interviews.

After the interviews, the participants were taken to the clinic for medical checkups, which included measurement of weight, checking of blood pressure, body temperature, and pulse, as well as a genital examination and determination of the presence of any STI. If an illness was suspected from the syndromic assessment, the participant was then given free medication as per the national guideline for the treatment of STIs.

Upon completion of the syndromic assessment, the participants moved on to the laboratory where they were asked to provide a urine sample for a PCR examination for gonorrhea and chlamydia. A blood sample was then collected for herpes, syphilis and HIV serologic testing. Two senior researchers from New ERA and SACTS and one FHI official regularly supervised the field team to ensure the 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 freezer. The refrigeration facility was arranged in the NRCS cold-chain store at Dhangadhi. Specimen tubes were packed in a specially designed icebox to be hand-carried during the jeep drive up to the Nepalganj airport and from there on the regular flights to Kathmandu. The same process was followed to transport the specimens from Kathmandu to New Delhi.

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. While for the testing of HIV, syphilis, gonorrhea, chlamydia and herpes, the specimens were transported to the central laboratories of SACTS in Kathmandu and Auroprobe in New Delhi. Table 2.2 shows the types of illnesses tested and the methods followed for different tests in the three centers.

Table 2.2: 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. Gonorrhea	Urine	Gene Probe	Auroprobe, New Delhi
4. Chlamydia	Urine	Gene Probe	Auroprobe, New Delhi
6. Blood Grouping	Blood	Cross Matching	Sandepani Health Post
7. Sugar Content	Urine	Urine Sugar	Sandepani Health Post
8. UTI Scan	Urine	UTI Scan	Sandepani Health Post
9. Albumin	Urine	Urine Albumin	Sandepani Health Post

2.4 **Data Recording, Organization and Analysis**

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

The data were entered into the computers using the FoxPro software package and later transferred to SPSS/PC Plus files for further analysis. The results were 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 people across different strata, behaviors and background characteristics.

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 and tables, while the second volume presents copies of the questionnaire, oral informed consent form and other relevant documents.

2.6 Ethical Review

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

2.7 Post-test Counseling and Treatment

The field team, which consisted of one professional counselor, one health personnel and one research assistant, carried out post-test counseling, treatment and individual report dissemination with the study participants. These staff members were selected from among the New ERA and SACTS's regular staff pool that had gained much experience working on similar studies in the past (e.g., STD and HIV Prevalence Surveys among Female Sex Workers and Truckers on the Highway Routes in the Tarai, Nepal).

The services were provided in a private setting with the identification from ID cards provided to them during the recruitment period. The participants with HIV positive were intensively counseled, while for those who had syphilis, gonorrhea and chlamydia, both counseling plus treatment services were provided free of cost in accordance with national guidelines.

Table 2.3: Post-test Activities in Kailali District

Activities	Number to be Covered	Actually Covered	
		N	%
HIV Counseling	2	1	50.0
Active Syphilis Counseling and Treatment	3	1	33.3
Syphilis Counseling	3	2	66.7
Gonorrhea Counseling and Treatment	2	2	100.0
Chlamydia Counseling and Treatment	4	3	75.0
HSV2 Counseling	29	19	65.5
Individual Report Dissemination/ Overall Response Rate	610	255	41.8

Table 2.3 shows that the individual report distribution and treatment/counseling services were provided to only 42 percent of the total participants. For the remaining 58 percent, it could not be provided because during the post-test fieldwork period they were away from their homes for short-period migration due to continued socio-political problems in the district. The illness-specific coverage and overall response rates have been presented in Table 2.3.

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 part of this chapter deals with those who have migrated outside Nepal, specifically India (51%), while the second part with those who have never been outside for employment and/or study purposes (49%).

Table 3.1: Distribution of Study Participants according to the Type of Migration

Migration Type	Distribution of Participants	
	Number	Percent
International Migrants	308	50.5
Non-migrants	302	49.5
Total	610	100.0

3.1 International Migration

Table 3.1 reveals that little more than half (51%) of the total participants left their villages for India at least once in search of work and/or study. Uttar Pradesh was the most frequently visited destination (34%) followed by Maharashtra (26%), UP/Bihar (22%) and Himanchal Pradesh (18%). About 11 percent of the migrants had gone to Mumbai. Data indicate that a maximum number of migrants visited northern parts of India, while the proportion of males migrating to the southern parts of India was relatively low (Table 3.2).

Table 3.2: Distribution of Migrants by Migration Destinations

Places Ever Visited	Migrants	
	Number*	Percent
Uttar Pradesh (UP)	104	33.8
Maharashtra	80	26.0
Mumbai Only	33	10.7
UP/Bihar	68	22.1
Himanchal	54	17.5
Hariyana	39	12.7
Gujrat	28	9.1
Punjab	26	8.4
Rajasthan	7	2.3
Jammu and Kashmir	7	2.3
Other States of India	15	4.9
Total	308	100.0

Note: * Total exceeds 308 because some of the participants visited more than one place.

The age at first migration of the participant ranges from early childhood to 40 years, in which the mean age accounts for nearly 22 years. The data show that more than one-fourth of the male migrants had migrated for the first time when they were less than 18 years of age. Almost half of the migrants had migrated when they were 18 to 25 years old. Relatively smaller proportions migrated for the first time after the age of 25 years. Their migration duration ranges from less than a month to nearly 30 years. The distribution shows that over 55 percent of them stayed in India for one year or

less, while 35 percent stayed out of Nepal for one to five years. The remaining 10 percent reported that they were out of Nepal for more than five years. During travel, most of them were accompanied by friends and family members (78%), while only 15 percent traveled alone.

Table 3.3: Migration Details

Details	Distribution	
	Number	Percent
<u>Age at First Migration (Yrs)</u>		
< 18	90	29.2
18 -25	157	51.0
> 25	61	19.8
Mean	-	21.5 Yrs
Median	-	20.0 Yrs
<u>Migration Duration</u>		
< 12 Months	170	55.2
13 - 60 Months	108	35.1
> 60 Months	30	9.7
Range	-	< 1 - 355 Months
<u>Accompany with</u>		
Friends	195	63.3
Alone	47	15.3
Family Members but not Wife	44	14.3
Other but not Friends	15	4.8
Wife	7	2.3
<u>Returned Home in Last</u>		
3 Months	93	30.2
4 - 12 Months	43	14.0
13 - 60 Months	121	39.3
> 60 Months	51	16.5
<u>Future Destination of Migration</u>		
Maharashtra	50	36.0
Uttar Pradesh	28	20.1
Uttaranchal	26	18.7
Himanchal	11	7.9
Gujrat	10	7.2
Others	13	9.4
Total	308	100.0

Among the total international migrants interviewed for this study, a maximum number (84%) were returnees of last five years, in which the fresh migrants who returned in last three months accounts for nearly one-third (30%). Due to the deteriorating socio-political situation in the district, the study found fewer fresh migrants than expected.

Maharashtra was the most preferred destination for future migration. About 36 percent of the migrants interviewed in the study reported that their future destination of migration would be Maharashtra. This was followed by Uttar Pradesh (20%) and Uttaranchal (19%). Table 3.3 presents the destination-specific figures.

3.2 Non-Migrants

Among the non-migrants (302), a maximum number (88%) were those who had never been outside their district, while a few (12%) were those who had migrated to other districts (within Nepal) at least once for short-term business and/or for study purposes (Table 3.4).

Table 3.4: Percentage of Non-Migrants According to their Mobility within the Country

Mobility Within the Country	Non-Migrants	
	Number	Percentage
Never been Outside Kailali District	265	87.7
Migrated Outside Kailali District	37	12.3
Total	302	100.0

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, findings on drug and alcohol use and the sexual behavior of the study participants are also presented in this chapter.

4.1 Demographic Characteristics

Nearly half of the total participants (48%) were at a highly productive and sexually active age group (18-25 years). However, the differential shows that its proportion was relatively lower for international migrants (42%) than for non-migrant sub-group (54%).

Nearly 80 percent of the total participants were currently married, and about one-fifth were unmarried. The distribution shows that more than 90 percent of the international migrants were married, while among the non-migrant sub-group the percentage was only 77 percent. The divorced and widowed were virtually nonexistent in both sub-groups. The mean age at marriage of the married participants was about 19 years. The 1963 National Code (*Muluki Ain*) of Nepal has legally specified 18 years as the minimum marriage age for males. However, about one-third of the study participants (35%) were married before reaching this age (Table 4.1). This figure was higher for non-migrants (39%) than for international migrants (33%).

A large majority of the participants (94%) 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 six percent of the males in the sample reported having more than one wife. The differential shows that the proportion with two or more wives was slightly higher among non-migrants (8%) than among international migrants (5%).

Over 91 percent of the participants had had at least one child. There was a slight variation in both fertility pattern and contraceptive prevalence rate (CPR) between the two migratory sub-groups. Data presented in table 4.1 provides evidence of a negative relationship between CPR and CEB; that is, the higher the CPR the lower the CEB among the two subgroup of respondents.

Similarly, the CPR was 45 percent among the non-migrants, which is far lower than the rate for international migrants (55%). Among the international migrants, sterilization (25%) was the most commonly used method of contraception, followed by condoms (19%) and depoprovera (8%). But among the non-migrants, condoms were the most commonly used method of contraception (20%), followed by sterilization (19%). The method-specific use rate now shows that the condom is the most prevalent (20%) followed by sterilization (14%) and depoprovera (7%).

Table 4.1: Demographic Characteristics of the Participants

Demographic Characteristics	Percentage Distribution of		Total
	International Migrants	Non-migrants	
<u>Current Age (Years)</u>			
18 - 25	41.6	54.3	47.9
26 - 35	32.8	22.2	27.5
36 - 50	25.6	23.5	24.6
Median	28.0	24	24
<u>Marital Status</u>			
Unmarried	9.4	22.8	19.7
Married	89.6	77.2	79.5
Widower	0.3	0.0	0.2
Divorced/Separated	0.6	0.0	0.3
Total Sample Men	308	302	610
<u>Age at Marriage (Yrs)</u>			
< 18	32.6	38.7	35.3
18 - 25	61.6	56.9	59.6
> 25	5.7	4.3	5.1
Median	19	19	19
<u>Number of Wives</u>			
One	95.3	92.4	94.1
Two or more	4.6	7.6	5.9
<u>Children Ever Born (CEB)</u>			
None/Unmarried	9.0	8.9	9.0
1 - 2	38.7	41.4	39.6
3 - 4	37.3	29.8	34.2
> 4	15.0	20.0	17.1
Mean CEB among Married Men	2.7 CEB	2.9 CEB	2.8 CEB
Total Married Men (Ever)	279	233	490
<u>Current Use of Contraception</u>			
Pills	2.9	5.3	3.1
Depoprovera	7.8	7.3	7.5
Condoms	19.1	20.0	19.5
Norplant	0.6	0.3	0.5
IUD	0.3	0.3	0.3
Sterilization	24.7	13.9	19.3
Overall CPR among Married Men*	55.4	45.0	50.2
Total Currently Married Men	276	233	485

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

4.2 Socio-Economic Characteristics

Table 4.2 shows the socio-economic characteristics of the study participants. Over 73 percent of the participants have had formal education from school or college. The distribution shows that

international migrants were much more advanced in terms of schooling (77%) compared to their non-migrant counterparts (69%).

Multiple ethnic groups were included in the sample (Table 4.2). The highest percentage was of the Tharu ethnic group (42%) followed by Chhetri/Thakuri (27%) and Brahmin (20%). Due to the non-migratory characteristics, the representation of the Tharu ethnic group was significantly higher for non-migrants (59%) than for international migrants (26%). However, due to their migratory nature, the representations of Chhetri (34%) and Brahmin (26%) ethnic groups were relatively high for international migrant sub-groups. Except for the Tharu and other hill origin ethnic groups, the percentage of other ethnic groups was much higher in the international migrant sub-group (Table 4.2).

Table 4.2: Socio-economic Characteristics of the Participants

Socio-economic Characteristics	Percentage Distribution of		Total
	International Migrants	Non-Migrants	
<u>Education</u>			
Never been to School/Illiterate	22.7	30.8	26.7
Primary	36.4	17.2	26.9
Secondary	37.7	46.3	42.0
Tertiary	3.2	5.6	4.4
<u>Ethnicity</u>			
Tharu	26.0	58.6	42.1
Chhetri/Thakuri	34.4	19.9	27.2
Brahmin	26.3	13.6	20.0
Occupational	9.4	5.0	7.2
Gurung/Tamang/Rai/Limbu	2.3	0.9	1.6
Other Hill Origin	1.6	2.0	1.8
<u>Religion</u>			
Hindu	97.7	98.6	98.2
Buddhist, Islam & Jain	2.3	1.3	1.8
<u>Birth Place</u>			
Study District	48.0	72.5	60.2
Outside Study District	51.0	27.5	39.3
India	1.0	0.0	0.5
<u>Cash Earned (per year Rs.)</u>			
Not at all	6.2	33.3	19.5
< 24,000	60.7	36.0	48.5
24,000 - 60,000	28.6	28.1	28.4
> 60,000	4.5	2.6	3.6
Total	308	302	610

As Table 4.2 shows, a large number of the study participants (60%) were born in the study districts, while the remaining 39 percent were born outside the district, although they were currently living in Kailali district. A small number of international migrants (1%) were born in India.

The cash income sources of the respondents were mainly agriculture, business, service and wage labor. From these activities the yearly income they earned was more than Rs. 60,000. The distribution shows that international migrants were much better off in terms of their income sources

because a significantly large proportion (94%) had earned cash in the last year, whereas among the non-migrant sub-group, such proportion was less than two-thirds (Table 4.2).

4.3 Behavioral Characteristics

As Table 4.3 shows, over 50 percent of the total participants were currently using alcohol. Survey data indicates that about 24 percent of the international migrants use alcohol every day or at least once a week, whereas among non-migrants the number is slightly lower (16%).

Table 4.3: Percentage Distribution of Respondents by Consumption of Alcohol & Drugs

Behavioral Characteristics	Percentage Distribution		Total
	International Migrants	Non- Migrants	
<u>Use of Alcohol</u>			
Every day	3.2	0.7	2.0
At least once a week	20.8	15.2	18.0
Less than once a week	33.1	27.5	30.3
Never	42.9	56.6	49.7
<u>Use of Drugs</u>			
Chemical	0.6	0.3	0.5
Herbal/Raw	32.1	17.9	25.1
Both	0.3	0.3	0.3
None	67.5	81.5	74.6
<u>Use of Different Drugs/Chemicals</u>			
Phensidyle	0.3	0.0	0.2
Codine	0.3	0.0	0.2
Heroin	0.0	0.3	0.2
<u>Use of Different Drugs/Herbals</u>			
Ganja	27.3	13.7	21.0
Bhang	20.5	11.2	15.9
Chares	20.8	10.9	15.9
Dhaturo	1.0	0.3	0.7
Opium	2.3	0.3	1.3
Papaya Flower	0.0	0.3	0.2
<u>Use of Herbal Drugs</u>			
Any One	8.4	6.6	7.5
Any Two	9.4	4.3	6.9
Any Three or More	14.6	4.3	10.9
Total	308	302	610

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 (25%) in the study area have reported that they have used herbal or raw drugs. Its use was much more popular among international migrants (32%) than among non-migrant sub-groups (18%). However, the use of chemical drugs was negligible among either subgroup (Table 4.3).

Table 4.4: Sexual Behavior of the Study Participants with Sex Workers

	Percentage Distribution	
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Sexual Behavior	International Migrants	Non-migrants	Total
<u>Ever had Sex with Sex Worker (SW)</u>			
Yes	19.8	4.3	12.1
No	80.2	95.7	87.9
Total Sample Men			
	308	302	610
<u>Sex with SW (in Last 12 Months)</u>			
Yes	19.7	7.8	17.6
No	80.3	92.2	82.4
Total Men Who ever had Sex with SW			
	61	13	74
<u>Places of Sex with SW (in Last 12 Months)</u>			
Hill Districts of Nepal	50.0	100.0	53.8
Tarai Districts of Nepal	16.7	0.0	15.4
Maharashtra of India	16.7	0.0	15.4
Gujarat of India	8.3	0.0	7.7
UP of India	8.3	0.0	7.7
Total Men Who had Sex with SW (in Last 12 Months)			
	12	1	13

Table 4.4 shows the participants' sexual behavior with sex workers. More than 12 percent of the participants have had sexual contact with sex workers. As the data indicates, involvement with sex workers has increased with the increase in the mobility of the respondents. For example, among the non-migrants only four percent had sex with sex workers, while among the international migrants the percentage was about five times higher. In the last 12 month's period also, the proportion involving in sex with sex worker was much higher among international migrants (20%) than among non-migrants (8%).

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

Use of Condom (during Last Sex with SW)	Percentage Distribution		
	International Migrants	Non-migrant	Total
Yes	62.3	62.3	62.3
No	37.7	37.7	37.7
Total Number (involved in Sex with SW)			
	61	13	74

As Table 4.5 shows, nearly two-thirds of the participants were using condoms during their last sexual encounter with a sex worker. There was no variation in condom use between migrants (62%) and non-migrants (62%).

Table 4.6: Sexual Behavior with other Women and Male Sexual Partners

Sexual Behavior	Percentage Distribution		Total
	International Migrants	Non-Migrants	
<u>Had Sex with other Women (in Last 12 Months) *</u>			
Yes	11.4	16.2	13.8
No	88.6	83.8	86.2
<u>Number of other Women Visited (in Last 12 Months)</u>			
One	4.2	10.6	7.4
Two or More	7.1	2.3	6.4
None	88.6	83.8	86.2
<u>Have Male Sexual Partner</u>	0.3	0.3	0.3
Yes	99.7	99.7	99.7
No			
Total	308	302	610

Source: * 'Other Women' means other than wife and female sex workers

Table 4.6 shows that about 14 percent of the participants had sex with the other women (other than their wife or female sex workers) in the last 12 months. The differential shows that the percentage was slightly higher for non-migrants (16%) than for international migrants (11%). But as for involvement in sex with two or more women, the percentage was higher for international migrants (7%) than for their non-migrant counterparts (2%).

International migrants have reported a relatively low use of condoms during their last sex with other women (37%) compared to the last sex with female sex workers (62%). The main reason for not using a condom as reported by them was because of their partner's objection. The practice of having a male sexual partner was virtually non-existent among the study participants.

Table 4.7: Proportion Using Condoms during Last Sex with Other Women

Use of Condom (during Last Sex with Other Women)*	Percentage Distribution		
	International Migrants	Non-migrants	Total
Yes	37.1	63.9	61.0
No	62.9	36.1	39.0
Total Number (involved in Sex with Other Women)	35	49	84

Note: *'Other Women' means other than wife or female sex workers

Over 95 percent of the currently married participants reported that they had sex with their wives in the last one month, of whom only 11 percent used condoms consistently, while about 13 percent used them only occasionally (Table 4.8). As the data shows, there was no marked difference in the condom use pattern between international migrants and non-migrants.

During their last sexual encounter with their wives, about 18 percent of the non-migrants reported to have used condoms, while among international migrants the use rate was only 15 percent. Among the condom users, nearly half (47%) of the participants reported that such a decision was taken by themselves. The overall decision-making power regarding condom use was relatively low among the

wives (9%). However, the differential of the percentage by migrants and non-migrants shows that decision-making power was higher among the wives of international migrants (15%) than among those of non-migrants (3%).

Table 4.8: Frequency of Sex with Wife and Condom Use Pattern

Sexual Behavior	Percentage Distribution		Total
	International Migrants	Non-Migrants	
<u>Frequency of Sex with Wife (in Last 1 Month)</u>			
None	5.1	4.3	4.8
1 - 10 Times	41.1	52.1	42.9
> 10 Times	53.8	43.5	52.3
<u>Frequency of Condom Use with Wife (Last 1 Month)</u>			
Every-time	10.7	11.5	11.1
Mostly	4.2	7.2	5.4
Sometimes	6.9	8.1	7.4
Never	78.2	73.2	76.1
<u>Use of Condom during Last Sex (with Wife)</u>			
Yes	14.9	17.7	16.1
No	85.1	82.3	83.9
<u>Who Suggested Condom Use (Last Sex with Wife)?</u>			
Self	34.1	62.2	47.4
Wife	14.6	2.9	9.0
Both	51.2	34.4	43.6
Total Number of Currently Married Men	276	209	485

5.0 KNOWLEDGE OF HIV/STDs

Knowledge of HIV/STD among the participants was assessed asking several questions concerning sexually transmitted diseases. About three-fourths (73%) of the participants reported that they have heard of at least one STD. The migration-specific differential shows that there was no variation in the level of awareness of the illnesses between international migrants and non-migrants.

Of the four spontaneously reported illnesses (Table 5.1), genital ulcers or sores was the most commonly known disease among the participants (60%), followed by genital discharge (47%), burning pain on urination (27%) and swelling in the groin area (18%). As data indicates, there was a slightly higher awareness of these illnesses among the non-migrants than the international migrants.

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

Awareness of STD	Percentage Distribution		Total
	International Migrants	Non-Migrants	
<u>Heard of Any STD</u>			
Yes	73.1	73.8	73.4
No	26.9	26.2	26.6
<u>Disease-specific Awareness*</u>			
Genital Ulcer/Sores	53.8	66.2	60.3
Genital Discharge	43.1	50.3	46.7
Burning Pain on Urination	24.4	28.5	26.6
Swelling in Groin Area	16.0	18.9	17.6
Total	308	302	610

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

A vast majority of the participants claimed to have heard of HIV/AIDS (79%). Nearly 12 percent of the participants reported that HIV/AIDS is a fatal disease. About one percent of the respondents reported that their relatives or friends had already died or been infected with HIV/AIDS.

A large number of the participants reported that they have some knowledge about HIV transmission routes like unsafe sexual contact (73%) and spontaneous transmission from an already infected mother to her newly born baby (72%). This awareness was slightly higher for non-migrants (74%) than international migrants (70%). Over three-fourths of the participants reported that condoms can protect one from being infected with HIV/AIDS. The awareness of condom use for safe sex was also slightly higher for non-migrants (77%) than for international migrants (75%).

Table 5.2: Awareness of HIV/AIDS by Migratory Status

Awareness of HIV/AIDS	Percentage Distribution		Total
	International Migrants	Non-Migrants	
<u>Heard of HIV/AIDS</u>			
Yes	79.2	78.5	78.9
No	20.8	21.5	21.1
<u>Heard of Death/Infection (due to HIV/AIDS)</u>			
Yes	12.3	10.9	11.6
No	87.7	89.1	88.4
<u>Heard of any Relative/Friends' Death/Infection Due to HIV/AIDS</u>			
Yes	1.6	0.3	1.0
No	98.4	99.7	99.0
<u>Awareness of Risk of HIV Transmission from Unsafe Sexual Contact</u>			
Yes	70.5	74.8	72.6
No	29.5	25.2	27.3
<u>Awareness of Risk of HIV Transmission from Infected Mother to Baby</u>			
Yes	69.8	73.5	71.8
No	30.2	26.5	28.2
<u>Awareness of Condom Use for Save Sex</u>			
Yes	75.0	76.5	75.7
No	25.0	23.5	24.3
Total	308	302	610

Table 5.3 reveals that the level of awareness about the use of condom was significantly higher for those who were aged between 18 and 25 years (92%), unmarried (96%), Chhetri and Brahmin ethnic groups (79%) and educated in school or college (88%). However, the level of awareness was relatively low among older people, Tharu and occupational caste groups and among those who were illiterate or had never been to school.

Table 5.3: Distribution of Respondents who are Aware of Condom Use for Safe Sex

Selected Variables	Total Respondents (N)	Participants Knowing about Condom Use against HIV/AIDS	
		Number (n)	Percent
<u>Age (Yrs)</u>			
18-25	292	269	92.1
26-35	168	122	72.6
36-50	150	71	47.4
<u>Ethnicity</u>			
Tharu	257	188	73.2
Brahmin/Chhetri	309	244	79.0
Occupational	44	30	68.2
<u>Education</u>			
Never been to School	163	71	43.6
Educated in School or College	447	391	87.5
<u>Marital Status</u>			
Unmarried	120	115	95.8
Ever Married	490	347	70.8
Total	610	462	75.7

Note: N denotes total number of sample.

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

Nearly two-thirds (63%) of the participants were exposed to some IEC materials related to HIV/STDs (Table 5.4). The level of exposure was slightly higher for non-migrants (67%) than for international migrants (60%). Common types of IEC materials and the sources of HIV/STD information were radio/television (63%), poster, wallpapers, street boards (27%), newspapers & books (23%) and friends & neighbors (33%).

The types of messages they got from these sources were related to high-risk sexual behavior and measures to avoid illicit sex or devise safe sex measures (Table 5.4). The most frequently reported message they noted from the materials was about the importance of using condoms when engaging in sexual activities, which accounts for 58 percent.

Migration-specific differential indicates that the international migrants were generally less exposed to these materials than their non-migrant counterparts. Table 5.4 presents different messages they got according to the types of sources, places where they were exposed to them, and the migratory status of the participants.

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

Source of Information	Percentage Distribution		Total
	International Migrants	Non-migrants	
<u>Seen/Heard of any Information on HIV/STD</u>			
Yes	59.7	66.9	63.3
No	40.3	33.1	36.7
<u>Sources of Information/IEC Materials on HIV/STD*</u>			
Radio and Television	62.3	63.6	62.9
Friends and Neighbors	34.7	30.1	32.5
Posters/Wall papers/Street Boards	28.3	25.5	26.9
News Papers and Books	11.4	23.2	22.8
NRCS Fieldworkers	16.6	19.9	17.7
Hospital/HP/SHP	14.6	11.9	12.8
School teachers	1.9	11.3	6.7
Street Drama	1.3	1.1	1.3
<u>Type of Information Heard/Seen about HIV*</u>			
Importance of using Condoms	52.6	62.9	57.7
Do not have Illicit Sexual Relation	16.6	25.5	21.0
AIDS is a Communicable Fatal Disease	16.2	12.6	14.2
Do not Use Syringe/blades Used by Others	9.4	11.9	10.6
Use only Tested Blood	6.1	7.3	6.7
AIDS is a Non-curable Illness	8.4	6.3	7.4
Do not have Sexual Relation with many People	6.1	7.3	6.7
AIDS is Transmitted by Sexual Contact	2.3	2.6	2.5
Keep Sexual Relation only with Single Person	1.3	2.6	2.3
Avoid Sex with Sex Workers	3.6	1.0	2.3
<u>Places where Materials on HIV/AIDS Seen/Heard*</u>			
Far- and Mid-western Tarai of Nepal	62.0	68.2	65.1
Far- and Mid-western Mid-hills of Nepal	1.6	0.7	1.1
Other parts of Nepal	0.6	4.3	2.5
India	3.9	0.0	2.0
Information not Heard/Seen	40.3	33.0	36.7
Total	308	302	610

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

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 (STD), including HIV infection, while second part deals with its differential according to the background characteristics.

6.1 Overall STD Prevalence

Overall, 7 percent of the participants were found to have been infected with at least one of the six different STDs tested in this study, while 93% did not have any. The illness-specific differential showed that herpes was the most highly prevalent illness (4.8%), followed by chlamydia (0.7%), syphilis (0.5%), gonorrhea (0.3%) and HIV (0.3%).

Migration-specific differentials indicate that to some extent all of the above illnesses were found among international migrants, while among the non-migrant subgroup only syphilis, chlamydia and herpes were prevalent. The illness-specific prevalence rates among the two sub-groups are presented in Table 6.1.

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

STD Infection	Prevalence of STDs and HIV among		Overall	
	International Migrants %	Non-Migrants %	N	%
HIV	0.6	0.0	2	0.3
Current Syphilis	1.0	0.0	3	0.5
Treated Syphilis	0.3	0.7	3	0.5
Gonorrhea	0.6	0.0	2	0.3
Chlamydia	1.0	0.3	4	0.7
Herpes	4.2	3.6	29	4.8
Any STD	7.8	4.6	43	7.0
Total	308	302	610	

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

The prevalence of six different types of STDs was analyzed according to seven different socio-demographic characteristics selected for this study (Table 6.2). Since the number of cases were too small for many of these illnesses, it was not possible for a statistical assessment of the relationship between these infections and the selected variables. However, the prevalence of these illnesses was generally higher among those who were ever married, of the older age group and hill-origin Indo-Aryans. The result also shows that the prevalence of the diseases has a positive correlation with education because the extent of illnesses was generally low among those who were educated in schools or college and it was high among those who have never been to school.

The extents of these illnesses were also slightly higher among those who had sex with sex workers in the past. The analysis of behavioral factors shows that alcohol users have a relatively higher rate of prevalence of these illnesses, while the non-users exhibit opposite patterns. But the behavior of drug use, which includes only herbal drugs, has had no marked effect on the extent of the prevalence rate.

Table 6.2: Relationship between Socio-Demographic Variables and STDs

Selected Variables	Total Sample	Proportion of Participants Infected with						
		HIV	Current Syphilis	Past Syphilis	Gonorrhoea	Chlamydia	Herpes	Any STD
<u>Age (Yrs)</u>								
18-25	292	-	0.3	0.7	0.3	0.7	2.1	2.1
26-35	168	-	0.6	0.6	0.6	0.6	6.5	3.0
36-50	150	1.3	0.6	-	-	0.7	8.0	2.0
<u>Marital Status</u>								
Unmarried	120	-	-	-	-	-	1.7	0.8
Ever Married	490	20.4	0.6	0.6	0.4	0.8	5.5	2.6
<u>Education</u>								
Not been to School	163	-	0.6	0.6	-	0.6	6.7	8.6
Primary	164	0.6	-	-	-	0.6	4.9	6.1
Secondary and above	283	0.4	0.7	0.7	0.7	0.7	3.5	6.7
<u>Ethnicity</u>	257	-	-	-	-	-	-	-
Tharu	309	0.6	1.0	1.0	0.6	1.3	9.4	4.2
Chhetri/Brahmin Occupational	44	-	-	-	-	-	9.1	2.3
<u>Use of Alcohol</u>	307	0.6	0.7	0.3	0.3	0.3	3.3	6.2
Yes	303	-	0.3	0.7	0.3	1.0	6.3	7.9
No								
<u>Ever Use of Herbal Drugs</u>	155	0.6	0.6	0.6	0.6	-	4.5	7.1
Yes	455	0.2	0.4	0.4	0.2	0.9	4.8	7.0
No								
	74	2.7	-	-	-	-	8.1	6.8
<u>Ever had Sex with SW</u>	536	-	0.6	0.6	0.4	0.7	4.3	7.1
Yes								
No								
Total	610	0.3	0.5	0.5	0.3	0.7	4.8	7.0

Source: New ERA Survey, 2002

Involvement in sex with sex workers was a common behavior of both migrant and non-migrant males of the study area (Table 6.3). However, there was a marked difference of this behavior between international migrants (20%) and non-migrants (2%). Due to their larger extent of involvement in sex with sex workers and increased rate of STDs, HIV infection was prevalent only among international migrants. Since the number of cases was too small for each individual illness, it was not possible to assess the relationship between HIV infection and a particular STD.

Table 6.3: Involvement in Sex with Sex Workers and HIV/STI Infection Rate

Migrants	Total Sample	Number Visiting Sex Worker		Number with Any STD		Number with HIV	
	N	n	As % of N	n	As % of N	n	As % of N
International Migrants	308	61	19.8	24	7.8	2	0.6
Non-Migrants	302	13	4.3	19	6.3	-	-
Total	610	74	12.1	43	7.0	2	0.3

Note: N denotes total sample.

: n denotes total number of participants with particular events.

As the results in Table 6.4 show, both of the HIV positive cases were involved in high risk sexual behavior and had a past history of at least one or more sexually transmitted illnesses.

Table 6.4: Relationship between Sexual Behavior and Infection with STDs and HIV

Events	N	HIV Infection	
		n	%
Ever had sex with sex workers	74	2	2.7
Infected with any STD	24	2	8.3

Note: N denotes total number of participants with a particular event.

: n denotes total number of participants infected with HIV.

6.2 HIV Infection among International Migrants

The differentials of the HIV prevalence rate among international migrants was assessed by asking questions about the places they visited while abroad, their involvement in high-risk sexual behavior during migration, the duration they stayed outside the country and the date in which they returned home.

As the result shows, HIV infection was found only among those who visited Mumbai (Table 6.5) and had sex with sex workers (Table 6.4). 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 employ any safe measures.

Table 6.5: Relationship between Migratory Profile and HIV Prevalence among International Migrants

Migratory Characteristics	Total Sample	Participants Infected with HIV +ve	
		Number	Percent
<u>Migration Duration</u>			
≤ 5 Years	544	1	0.2
> 5 Years	66	1	1.5
<u>Migration Destination (ever visited)*</u>			
Mumbai	33	2	6.1
Other Places of India	428	-	-
<u>Returned Nepal in Last</u>			
≤ 12 Months	136	1	0.7
> 12 Months	172	1	0.6
Total	308	2	0.6

Note: * Total exceeds 308 because some of the participants visited more than one place.

The extent of the HIV/STI transmission risk from infected to non-infected partners was assessed by asking questions about their awareness of safe sex measures, marital status and current use of condoms. The result 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 during intercourse with their wives since their return from Mumbai.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

- A high proportion of participants (76%) was aware of the importance of using condoms for protection against the HIV virus.
- A vast majority of the participants claimed to have heard of HIV/AIDS (79%) and its transmission routes (73%). They reported that with the use of condoms they could protect themselves from being infected with the fatal disease. But among those who visited sex workers, only 62% used condom during sex with sex workers.
- HIV infection was found only among those who visited Mumbai (6.1%) and had sex with sex workers without using a condom. They reported that when involved in such behavior they could not think of its necessity.
- None of the HIV infected participants were using condoms even now during sex with their wives, although they were aware of the importance of condom use for safe sex.

7.2 Recommendations

- Efforts should be directed to periodic identification and monitoring of the migrants returning from Mumbai of India for HIV/STD control and awareness programs. It should be linked with rapid diagnostic procedures, couple-counseling and treatment activities.
- The outreach and awareness program should focus on the extremely high risk of HIV/STD infection 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.

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