# Migration and HIV/AIDS in India

## Introduction

Human Immuno Deficiency Virus (HIV) and its consequence, Acquired Immuno Deficiency Syndrome (AIDS) certainly count among the least tractable epidemiological disasters facing today's world. It is the worst and deadliest disease that humankind has ever experienced. The epidemic is not homogeneous and requires well informed, prioritized and effective responses. HIV is a virus that attacks the body's immune system making it unable to fight infections. The National Institutes for Health (NIH) defines AIDS as "*the most serious stage of HIV infection that results from the destruction of the infected person's immune system*" (Johanson, 2007).

HIV and AIDS were initially diagnosed in developed countries and first tracked among populations of homosexual and bisexual males. But as it reached developing countries the epidemic spread increasingly through heterosexual contact, with its scope growing all the faster. The epidemic substantially affects the demography, health, economy and social fabric of developing countries (Ghosh, 2002). Low level of economic growth increases the vulnerability of HIV/AIDS and related morbidity in all countries in general and developing countries in particular. The estimated number of people living with HIV/AIDS worldwide in 2007 was 33.2 million (30.6-47.1 million), a reduction of 16 percent compared with the estimate published in 2006: 39.5 million (34.7-47.1 million) (UNAIDS, 2007). In 2007 there were 2.7 million new HIV infected and 2 million HIV-related deaths. The most severely affected region, with respect to this global epidemic, is Sub–Saharan Africa. It accounts for the 67 percent of HIV infected people and 75 percent of AIDS death in 2007 (UNAIDS, 2008). When we come to Indian national scenario, results from National Family Health Survey, 2005-06 (NFHS-3), which is a population based survey, indicate that 0.28 percent of adults age 15-49 are infected with HIV. This translates into 1.707 million HIV positive persons age 15-49 in India at the midpoint of the NFHS-3 survey period. The HIV prevalence rate is 0.22 percent for women and 0.36 percent for men age 15-49 (NFHS–Report, 2006).

In India HIV/AIDS has spread largely through heterosexual intercourse and the epidemic has moved from urban to rural areas. The history of HIV/AIDS begins with the identification of initial HIV/AIDS cases in 1986, when serological testing found that 10 of 102 female sex workers in Chennai were HIV positive (Nag, 1996). In the face of increasing number of people being identified with HIV, Government of India initiated a systematic response by establishing National AIDS Committee (NAC) and then in 1992, the National AIDS Control Organization (NACO), under Ministry of Health and Family Welfare. NACO is engaged in surveillance and awareness programs related to HIV/AIDS in India (NFHS-3). There are six high HIV prevalence states, identified in India by NACO, which are Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu, Manipur and Nagaland. HIV/AIDS strikes most heavily in the 15-49 age groups, the very people on whom every country relies heavily for economic growth and development. And

prevalence of HIV/AIDS is pronounced among some occupational groups, in which sex-workers and their clients are significant. The twin plague of HIV and AIDS certainly spreads through high-risk population to low risk population. High-risk population refers to a group or community of people engaging in practices or behaviours that put them at increasing risk for HIV acquisition and transmission (for example, sex workers, clients of sex workers, injecting drug users and men having sex with men). The spread of HIV infection is governed by behavioral, structural and biological factors (Moses et.al, 2006).

Parker et.al, have pointed out that the spread of the international AIDS pandemic has drawn attention to the urgent need for the data on human sexual behavior, yet the absence of an established transition of theory and method in sex research has limited the development of initiatives in this area (Parker et.al, 1991). Nag 1996, has analysed the salient findings from the available studies on sexual behavior in India with a focus on those aspects of sexual behavior, which are particularly relevant to HIV/AIDS transmission and prevention. He has discussed the current trends, prevalence and geographic distribution of HIV/AIDS in India. He has also explored the sexual practices among youth, women and men in urban, rural and tribal communities, as well as those who are part of the sex industry. The author has woven in this discourse contemporary behaviour within a cultural and historical context (Nag, 1996).

Migration is widely recognized as one of the main facilitating conditions of HIV transmission. Improved understanding of the linkages between migration and HIV risk factors is critical to control further spread of AIDS. It is well known that vulnerability to HIV is often greatest when people find themselves living and working in conditions of poverty, powerlessness and social instability, conditions which apply to many migrants (UNAIDS, 1998). When it comes to migration it is generally men who first migrate. This is then followed by linked migration spouses and other family members. Migration makes people redefine their identities as they move from one place to another in search of work (Bailey, 2008). Increased migration to urban centers in many developing countries has resulted in changes in the traditional family structure. Temporary labour migration results in men having to leave behind families and their social groups and redefine their identities. They have to abstain or look for other alternatives to satisfy their sexual needs. HIV/AIDS and migration do not have a linear, cause-effect link but they are linked laterally. HIV prevalence in migrant groups is then a manifestation of economic and social inequalities (UNDP, 2004). Being a migrant is not a risk factor in itself, but the process of migration and integration into local communities can expose the migrant to the risk of acquiring infectious disease (Bailey, 2008).

Ghosh, 2002 has analysed the epidemic of HIV/AIDS in India, with respect to its geographical variation and effect of different behavioral characteristics. It is found in her study that there is urban-rural variation in the distribution of HIV/AIDS, and in southern states it is more visible. It

was explained by the higher level of urbanization and related migration in these states, especially in Maharashtra. Among some high-risk groups like sex-workers, their clients and intravenous drug users and labour migrants the prevalence of HIV/AIDS is high. It was found that the spread of HIV/AIDS is associated with high levels of migration, itself a reflection of limited employment opportunities, poverty and economic restructuring. The lack of economic opportunities results in high rural to urban movement. Migration is male dominated, and men are more likely to engage in high-risk behavior patterns. Another important aspect of the migration is the high rural to rural migration by female due to marriage and labour migration. Also in rural India it appears to have a lower incidence of HIV/AIDS than do the country's urban areas; the rural prevalence rate is likely hidden. Rural – Urban connections and paucity of information can influence future increases in HIV infection in rural India (Ghosh, 2002).

Using data from the 1993 Kenya Demographic and Health Survey, link between migration and sexual behaviour and risk of HIV is observed. Results indicate that migration is a critical factor in high-risk sexual behavior and its importance varies by gender and by the direction of movement. Given the predominance of men in urban migration and the large volume of circulatory movement between urban and rural areas, these results have serious implications for HIV transmission throughout Kenya (Brockerhoff and Biddlecom, 1999).

In India, a country still dependent on agriculture, the failure of a monsoon among other things, fuels internal migrants. Internal migration in India has long been dominated by short distance migration, with 60 percent of all movements occurring between rural areas at the intra-district level (Singh, 1992). During the last four decades urbanization has increased rapidly with the percentage of the population living in urban areas increasing from 19.9 percent to 28 percent between 1971 and 2001 (census, 2001). The consequences of this process have included the rapid growth of India's cities. The 2001 census showed that all of India's million-plus cities have over one third of their population made up of migrants, with the growth in rural areas being much lower than in urban areas (Chandna, 2006). According to an estimate of UNDP, there are 200,000,000 people not living in their place of birth (UNDP, 2004).

A study conducted in the industrial city of Surat in Gujrat (India) found that male migrant workers, who live alone and have some disposable income, are more likely to indulge in risky sexual behaviour (Gupta and Singh, 2002). Prevailing gender relations have a serious impact on men's sexual health and the sexual health of partner's and families (Rivers and Aggelton, 1999). In India higher percentage of men show high-risk behaviour and the infection is more common among men than among women. Recent figures show that out of the estimated numbers of adults living with HIV, 62 percent are male (NACO, 2006). In India, married men are transferring the virus from sex workers to their wives. One of the very recent studies conducted in Goa (India), found that migrants and mobile men in Goa perceived the economic consequences of being infected with the HIV virus to be more severe in comparison to social and health consequences.

Knowledge on HIV and AIDS is locally produced and shared through cultural narratives. The link between culture and space/place is depicted in the manner in which migrants make their places, are othered by the Goan host population and search for sex workers.

Available literature reveals that HIV/AIDS in India is heterogeneous with respect to the vast geographical stretch of the country, differences in the income, gender, occupational structure, and socio-cultural variations. Also migration plays an important role in the spread of HIV infection and very less number of studies has been done in this field for India till date. It was perhaps due to the lack authentic data related to the number of HIV infected persons in the country. NFHS-3 offers the opportunity to better understand the magnitude and patterns of HIV infection in the general reproductive age population in India. This data is based on the HIV testing among more than one lakh male and female all over the India. Earlier prevalence estimates were based on the sentinel surveillance. HIV surveillance in designated sites (sentinel surveillance) has expanded and improved considerably leading to more reliable estimates of HIV epidemic and its impact. In addition a growing number of countries have conducted national population based surveys (e.g. NFHS-3 in India) that include HIV testing. These surveys are geographically more representative than sentinel surveillance and include both men and women. Many countries of Africa and Asia have conducted national population based surveys with HIV prevalence measures. In most of those surveys new estimates of HIV prevalence were lower than estimates of prevalence published before the new survey data became available.

NFHS –3, being based on testing, provides the opportunity to study the profile of HIV infected people in the whole India. The paper attempts to examine the differentials of HIV prevalence rate among migrants and non-migrants and to study the overall profile of HIV infected persons of India with respect to background characteristics (including migration status) and to assess the differential between migrants and non-migrants about the HIV/AIDS awareness among HIV infected persons. Paper also tries to asses the overall impact of migration on the HIV infection.

## Data

National Family Health Survey-3 (NFHS-3), which has been conducted by International Institute for Population Sciences in 2005-06, is the main data source of present study. NFHS-3 provides information on fertility, mortality, family planning, HIV-related knowledge, and important aspects of nutrition, health, and health care. First time this survey has provided an estimate of HIV prevalence by testing of adult population, i.e., HIV prevalence among women age 15-49 and men age 15-54 for all India. NFHS-3 carried out blood testing for HIV, to provide first population based data on HIV infection for all India. From all the women aged 15-49 and men aged 15-54 interviewed nationwide, 102,946 were tested for HIV. NFHS-3 defined small town, town, city, metropolitan and municipality as urban areas. In addition to current place of residence (categorized as small city, town, country side and capital or large city), the survey collects basic information on number of years the respondents spent in the current place of residence (coded in

single years, always and visitors), and type of residence prior to the most recent migration. Using this information it is possible to identify four migration streams: those who had moved from rural to rural areas, urban to urban, rural to urban and urban to rural. In this study, migrant is defined as a person who has changed place of residence across an administrative boundary. Visitors were excluded from the analysis. A woman, who reported previous residence as rural and current residence as urban, is classified as a rural to urban migrant. The non-migrant groups of respondents are classified as rural or urban native, based upon their reported duration at the current residence as 'always'.

## Methods

Bivariate techniques and binary logistic regression have been applied for the analysis in this study. The dependent variable is the HIV infection, it's a dichotomous variable, which has two categories, i.e, either person is infected with HIV or not. Due to very less number of HIV positive cases state wise analysis was not possible and hence only national level profile of HIV cases is analysed and differentials of HIV prevalence among migrants and non-migrants is examined. To study the profile of HIV cases, eight important independent variables are taken as the background characteristics, these are age-group, educational attainment, wealth index, occupational structure, caste, religion, marital status and migration status. Wealth index is divided into five categories; poorest, poorer, middle, richer, and richest. Wealth index is calculated first time by NFHS-3 on the basis of the information of household assets and income, collected in survey. The distribution of HIV cases is analysed between the migrant and non-migrant groups as well as according to streams of migration. All the four categories of migration streams are considered for the analysis, which are rural to rural, rural to urban, urban to urban and urban to rural. For second objective, independent variables related to awareness of AIDS, its prevention methods, transmission as well as the high-risk sexual behaviour, are taken. With the help of these indicators differentials between migrants and non-migrants HIV infected persons is analysed.

Logistic Regression is applied for assessing the impact of migration status and migration streams on the HIV infection keeping other the effect of other variables in control. HIV infection is the dichotomous dependent variable, where HIV positive is taken one and HIV negative is taken as zero. Here the analysis is done separately for men and women because men and women have separate behavioral characteristics, occupational structure as well as different migration perceptions. Logistic regression analysis is applied to two models, representing males and females. For this analysis, ten independent variables are taken; age group, educational attainment, wealth index, occupation, caste, marital status, type of place of residence, condom used in last intercourse, migration status and streams of migration. Age group is divided into two categories, below 30 and 30 and above, educational attainment is divided into three categories illiterate, below matriculation and above matriculation, further wealth index is categorized into three types poor, moderate and richer, occupational structure is divided into not working,

agricultural and non-agricultural, caste is divided into scheduled caste, scheduled tribes and other and marital status is divided into two categories married, and single. Besides these background characteristics migration status and migration streams are also taken as independent variable to assess the impact of migration on the HIV, non-migrant and rural to urban migration stream are the reference categories for them respectively.

## Results and discussion

### *HIV prevalence rate among migrants and non-migrants*

Table 1 shows the prevalence among migrants and non-migrants, in India. Among migrants there is higher HIV prevalence of 0.29 percent than that of non-migrants (0.28 %). However these differences are not so high, but when we come to sex-wise results there are definitely significant differences are found in prevalence. For instance, among male migrants there is a prevalence of 0.55 percent while it is only 0.29 percent among non-migrants. In contrast, among females there is a very less difference in terms of migrants and non-migrants. These results support the fact that migration and HIV relationship is more evident for the males, and also, in India internal migration is dominated by females, due to marriage migration.

### *Profile of HIV infected people on basis of background characteristics and migration streams*

Table 2 presents the percent distribution of HIV positive cases with respect to background characteristics between male and female. There is a variation in the distribution of cases in different age groups. Results show that there are 46 percent cases between twenty-five and thirty four years old, which is highest and only 10 percent are above the age of forty five and above. But when we look at the differentials between male and female, there is highest percent of cases among males between twenty-five to thirty four years old. Among females, in turn, results are slightly different and 45 percent of the total cases are between twenty five to thirty four years old. There is also a marked variation in the distribution of cases is found in different educational categories, as results show that highest percentage of cases are in the below secondary with 41 percent of cases followed by no education with 26 percent of cases. Among males the below secondary has the 45 percent of cases which is highest while among women highest percentage of cases are in the no education category. It appears that less educated people are more affected by the HIV as a whole, while among females infection is high among illiterates. Wealth index is the important background characteristics, which is shown in the table 2. Richer group is having the highest percent of cases of 34 percent followed by the middle group with 21 percent of cases and lowest percent of cases are in the poorest wealth quintile. The same pattern is more or less seen in the male and female categories.

Table 2 also depicts the percent distribution of HIV positive cases by occupation, in which highest percentage of cases are in non-agricultural group (58 percent). However among males, there are more than 72 percent cases are in this group. Among females ‘not working group’ has

got the highest percentage of cases (44 percent). Other background characteristic depicted in the table 2 is the caste. Results show that the highest percentage of cases are in 'others' category which comprises the general and other backwards caste, having the 69 percent of cases, it is followed by 19 percent of cases in the scheduled caste and 12 percent in the scheduled tribes. Between male and female this pattern is more or less same. There is variation in the distribution of cases according to Religion; results show that the 80 percent of cases are in the Hindus and six percent cases are in Muslims. The distribution is more or less same among males and females. The other important background characteristics which shown in this table is the current marital status, which is divided into two categories; 'single' and 'currently married', in married categories there are 67 percent of cases and in single category there are 33 percent of cases. Table also shows the percent distribution of HIV positive cases between migrant and non-migrants. When we look at the overall figure at national level 41 percent of cases are in the migrant categories and 59 percent cases are in the non-migrant categories, however, distribution is quite different among males and females. Among males 31 percent cases are in migrant group and remaining is in the non-migrant group. Among females 56 percent of the cases are in migrant and 44 percent cases are in non-migrant group.

Table 3 depicts the distribution of HIV positive cases according to streams of migration among males and females. There are 36 percent cases in urban to urban stream, which is highest on the other hand lowest percentage of cases is found among urban to rural migrants. But this distribution doesn't give the real picture, until we look at the results of males and females difference in the distribution. There are only 17 percent cases in rural to rural migrants among male while it is 35 percent among females. It is mainly due to the marriage related migration. Highest percent of cases are in urban to urban migration among males, which is 48 percent. Since migrant laborers from small towns come to the urban areas (cities and metros) and being away from home get into contact with the high risk groups and their chances of getting infected increases.

***Awareness of HIV/AIDS and behavioral characteristics among migrants and non-migrants***

Table 4 presents the awareness of HIV-AIDS and preventions methods among the HIV positive cases according to migrations status with respect to the knowledge and awareness of HIV and its prevention methods. One important question in this regard is the ever heard of AIDS, among males HIV positive cases 88 percent non-migrants know about it while 94 percent of migrants have the knowledge regarding it. Among migrant females 70 percent say they don't know about it and among non-migrants 82 percent say they know about it. Other question related to the prevention of AIDS infection, is the reduction of chance of AIDS having only one sex partner with no other partner. In this regard migrant and non migrant males have same awareness (82 percent). Again among females awareness is low. Responding to the question whether the use of condom always during the sex reduces the chances of AIDS, 84 percent of male migrants as well as non-migrants say yes. While among females it is 61 percent and 62 percent respectively for

the migrants and non-migrants. There fore there is no significant difference is coming out among migrants and non-migrants.

Table 5 is related to the knowledge of transmission of AIDS. Question with this regard is the getting AIDS by mosquito bite. It is found from the table that out of total positive cases migrant males have less knowledge against their counterparts; among females, non-migrants have more knowledge. Other question, a person could get AIDS by sharing food with person who has AIDS, was responded in yes by 10 percent of migrant males in comparison to 8 percent of non-migrants. Among females less migrants say yes (20 percent) than non-migrants (10 percent). Over all, their is less awareness among the migrants.

***Results from Logistic regression***

As mentioned above, binary logistic technique is used for the analysis. Table 6 presents results of both of the models (separately for males and females). In the first regression caste and migration streams are coming significant and there is 46 percent less likelihood of coming HIV positive of the above matriculation males in comparison to the illiterate males. In comparison to the SCs odds of getting HIV positive are 1.6 times more likely for the ST males. Also in comparison to the rural to rural migrants urban to rural migrant males are 2.4 times more likely to get affected by the HIV. In the second model; age, education, occupation, marital status and migration streams are coming statistically significant. Below thirty females are 44 percent less likely to be HIV positive than their counterparts. Below matriculation and above matriculation females are 36 less likely to be HIV the illiterate. Non-agricultural females are 89 percent more likely to be HIV positive than the not working females. Females who have migrated from urban to urban area are 1.7 times more likely and also females who have migrated from urban to rural area are more than two times likely to be HIV positive than rural to rural migrants. Thus our logistic regression is supporting that migration stream have significant impact on the HIV infection.

## Summary and conclusions

We have explored information on HIV infection collected by the National Family Health Survey-3 in India to study the profile of HIV cases with the help of background characteristics and migration status. It is found that there are marginal differentials in the HIV prevalence rate among migrants and non-migrants but differences become significant, when we look into the sex-wise differences and as per expectations, there, higher prevalence is found among migrant males. There is a wide variation in the distribution of HIV positive cases with respect to the background characteristics. In general, more than thirty-year-old person are more infected; it appears in the multivariate analysis also. Illiterate and lower educated people are more affected; also non-agricultural males are more affected by the HIV/AIDS, while among females not working female are more prone to it. Marital status has a bearing on HIV infection and people who are single (widowed, never married and divorced) are more prone to be infected. The

analysis regarding the differentials between migrants and non-migrants about the awareness of HIV/AIDS among the HIV positive persons shows some interesting findings that even some percentage of the infected persons haven't heard about the AIDS and also its transmission and prevention methods, they may become crucial in the spread of HIV/AIDS. Migrants are less aware about these things than non-migrants however the level of differentials is not high. Some of the migrants who are still engaged in the high-risk sex behaviour also and percentage of these is marginally high in comparison to the non-migrants. So there is a need to increase awareness among these groups to check the transmission of HIV/AIDS to the other people.

Finally it could be stated that there is high HIV prevalence among male migrants. Along with bivariate findings, multivariate results support that there is an association of background characteristics and migration streams with HIV infection. However, findings reveal there is a higher prevalence of HIV/AIDS among migrants compared to non-migrants. Further, multivariate results show that among the streams of migration, urban to rural migration shows significant relationship with HIV infection. High risk groups could not be explored due to the lack of related data in the NFHS-3 especially with respect to female sex workers and the truck drivers. To sum up it could be stated that there is a relationship between migration and HIV infection, but it is not the direct cause of HIV infections.

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**Table 1: HIV prevalence among migrants and non-migrants by sex, *India, NFHS-3, 2005-06***

| | **Male** (%) | **Female** (%) | **Total** (%) |
|---|---|---|---|
| Migration status | | | |
| Migrant | 0.55(12082) | 0.20(35444) | 0.29(47526) |
| Non-migrant | 0.29(37524) | 0.24(17848) | 0.28(55372) |
| Total | | | 0.28(102898) |

**Table 2: Percent distribution of HIV positive cases with respect to background characteristics by sex, India, NFHS-3, 2005-06**

| | Male | Female | Total |
|---|---|---|---|
| | (%) | (%) | (%) |
| *Age - Group* | | | |
| 15-24 | 8.6 | 19.9 | 13.2 |
| 25-34 | 42.7 | 49.7 | 45.5 |
| 35-44 | 36.6 | 24.1 | 31.5 |
| 44 and above | 12.2 | 6.3 | 9.8 |
| Total | 100 | 100 | 100 |
| *Educational Attainment* | | | |
| No education | 15.8 | 40.8 | 26 |
| Below primary | 11.5 | 12.6 | 11.9 |
| Primary complete | 10.8 | 5.2 | 8.5 |
| Below secondary | 45.2 | 34 | 40.6 |
| Secondary and Higher | 16.8 | 7.3 | 13 |
| Total | 100 | 100 | 100 |
| *Wealth Index* | | | |
| Poorest | 9.7 | 11 | 10.2 |
| Poorer | 14 | 14.1 | 14 |
| Middle | 20.4 | 22.5 | 21.3 |
| Richer | 32.6 | 33 | 32.8 |
| Richest | 23.3 | 19.4 | 21.7 |
| Total | 100 | 100 | 100 |
| *Occupational status* | | | |
| Not working | 6.1 | 44.2 | 21.5 |
| Agricultural | 21.1 | 18.9 | 20.3 |
| Non-agricultural | 72.8 | 36.8 | 58.2 |
| Total | 100 | 100 | 100 |
| *Caste* | | | |
| Scheduled Castes | 17.8 | 20.5 | 18.9 |
| Scheduled Tribes | 12.2 | 10.8 | 11.6 |
| Others | 70 | 68.6 | 69.5 |
| Total | 100 | 100 | 100 |
| *Religion* | | | |
| Hindu | 78.1 | 82.7 | 80 |
| Muslim | 6.1 | 4.7 | 5.5 |
| Others | 15.8 | 12.6 | 14.5 |
| Total | 100 | 100 | 100 |
| *Current marital status* | | | |
| Single | 27.2 | 40.3 | 32.6 |
| Currently Married | 72.8 | 59.7 | 67.4 |
| Total | 100 | 100 | 100 |
| *Migration status* | | | |
| Migrant | 31.2 | 56 | 41.3 |
| Non-migrant | 68.8 | 44 | 58.7 |

| | | | |
|---|---|---|---|
| Total | 100 | 100 | 100 |

**Table 3: Percent distribution of HIV positive cases according to streams of migration by sex, India, *NFHS-3, 2005-06***

| | Male | Female | Total |
|---|---|---|---|
| *Streams of Migration* | (%) | (%) | (%) |
| Rural to Urban | 23.3 | 19.6 | 21.2 |
| Urban to Urban | 47.7 | 27.1 | 36.3 |
| Urban to Rural | 11.6 | 17.8 | 15 |
| Rural to Rural | 17.4 | 35.5 | 27.4 |
| Total | 100 | 100 | 100 |

**Table 4: Awareness of HIV/AIDS and prevention methods among the HIV positive cases by migration status (by sex), India, *NFHS-3, 2005-06***

| | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Migrants (%) | Non-Migrants (%) | Migrants (%) | Non-Migrants (%) | Migrants (%) | Non-Migrants (%) |
| *Ever heard of AIDS* | | | | | | |
| No | 6.4 | 11.7 | 30.3 | 17.9 | 18.4 | 14.8 |
| Yes | 93.6 | 88.3 | 69.7 | 82.1 | 81.6 | 85.2 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| No. of cases | 87 | 192 | 107 | 84 | 194 | 276 |
| *Reduce risk of getting AIDS by not having sex at all* | | | | | | |
| No | 11.1 | 9.9 | 12.1 | 11.8 | 11.6 | 10.9 |
| Yes | 82 | 81.7 | 67.3 | 68.1 | 74.7 | 74.9 |
| Don't Know | 6.9 | 8.4 | 20.6 | 20.1 | 13.7 | 14.2 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| No. of cases | 82 | 180 | 89 | 67 | 171 | 247 |
| *Reduce chance of AIDS: have one sex partner with no other partner* | | | | | | |
| No | 4.5 | 4.9 | 7.8 | 7.8 | 6.2 | 6.4 |
| Yes | 89 | 86.4 | 73.5 | 71.5 | 81.2 | 78.9 |
| Don't know | 6.4 | 8.7 | 18.7 | 20.7 | 12.6 | 14.7 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| No. of cases | 82 | 180 | 89 | 67 | 171 | 247 |
| *Reduce chances of AIDS by always using condoms during sex* | | | | | | |
| No | 8 | 6.9 | 10 | 10.6 | 9 | 8.6 |
| Yes | 84.9 | 84.3 | 61.1 | 61.9 | 73 | 73.1 |
| Don't know | 7.1 | 8.9 | 28.9 | 27.7 | 18 | 18.3 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |

| | | | | | | |
|---|---|---|---|---|---|---|
| No. of cases | 82 | 180 | 89 | 67 | 171 | 247 |

**Table 5: Awareness of transmission of HIV/AIDS among the HIV positive cases by migration status (by sex), India, NFHS-3, 2005-06**

| | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Migrants (%) | Non-Migrants (%) | Migrants (%) | Non-Migrants (%) | Migrants (%) | Non-Migrants (%) |
| *Get AIDS by Mosquito bite* | | | | | | |
| No | 62.2 | 70 | 53.9 | 56.4 | 265 | 63.4 |
| Yes | 19.5 | 17.8 | 20.4 | 18 | 76 | 18.2 |
| Don't know | 18.3 | 12.2 | 25.8 | 25.6 | 77 | 18.4 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| No. of cases | 82 | 180 | 89 | 67 | 171 | 247 |
| *Get AIDS by sharing food with person who has AIDS* | | | | | | |
| No | 78 | 81.7 | 66.3 | 76.1 | 72.2 | 78.9 |
| Yes | 9.8 | 7.8 | 19.1 | 10.4 | 14.5 | 9.1 |
| Don't know | 12.2 | 10.6 | 14.6 | 13.4 | 13.4 | 12 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| No. of cases | 82 | 180 | 89 | 67 | 171 | 247 |

**Table 6: Results of Logistic regression (Odds ratios) for the HIV cases among males and females by migration status and other background characteristics, *NFHS-3, 2005-06***

| *Background characteristics* | Male<br>Exp(B) (N=48517) | Female<br>Exp(B) (N=51122) |
|---|---|---|
| *Age* | | |
| 30 and above® | | |
| Below 30 | 0.753 | 0.568*** |
| *Education* | | |
| Illiterate® | | |
| Below matriculation | 1.240 | 0.644** |
| Above matriculation | 0.548* | 0.169*** |
| *Wealth Index* | | |
| Poor® | | |
| Moderate | 1.061 | 1.107 |
| Richer | 0.946 | 1.219 |
| *Occupation* | | |
| Not working® | | |
| Agricultural | 1.181 | 0.974 |
| Non-agricultural | 2.026 | 1.892*** |
| *Caste* | | |
| S.C.® | | |
| S.T. | 1.645* | 1.076 |
| Others | .931 | 1.345 |
| *Marital status* | | |
| Married® | | |
| Single | 1.240 | 2.352*** |
| *Type of place of residence* | | |
| Rural® | | |
| Urban | 1.315 | 1.238 |
| *Migration status* | | |
| Non-migrant® | | |
| Migrant | .888 | .949 |
| *Migration streams* | | |
| Rural to Rural® | | |
| Rural to Urban | .704 | 1.623 |
| Urban to Urban | 1.070 | 1.760* |
| Urban to Rural | 2.454** | 2.943** |
| *Condom used last intercourse* | | |
| No® | | |
| Yes | 1.249 | 1.285 |

®Reference category * p < 0.1 ** p < 0.05 *** p < 0. 001