

# Multiple Sexual Partners and Vulnerability to HIV: A Study of Patterns of Sexual Behaviour in the Slum Population of India

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## Abstract

Globally, research indicates that monogamous married women living in slums are at heightened risk of HIV men's risky sexual behaviour. Hence, to reduce the risk of HIV transmission, there is need to understand the number, nature and variation in transition of sexual partners of men in living in slums. This paper uses India's National Family Health Survey-3 data to estimate the variation in the type of sexual partners among sexually active men age 15 - 54 with more than one sexual partner in last 12 months prior to the survey in eight slums of India. Among sexually active men, 1.3 percent reported having more than one sexual partner in the last 12 months prior to the survey. Men who are more likely to have two or more partners are those who are young, especially below age 25 years, never married, educated up to 5 years, and from middle class. There is a higher increase in the probability of sex with spouse from second last to the last sexual partner in non-slum areas than slum areas. However, in case of transition from other friends/relatives and female sex workers to spousal partners, there is a major decline in probability among non-slum men than slum men. These transitions are extremely important from the perspective of curbing the spread of HIV epidemic, especially in situations where women lack control over their own sexuality and seldom use condom in marital sex. Therefore, strategies focused in slums should either consider reducing men's risky sexual behaviour or build capacities of women to negotiate safe sex in marital relationships or consider a combination of both.

## Keywords

Slum, Sexual Partners, Transition Probability

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## 1. Introduction

The HIV prevalence rate in India is estimated at 0.27% (0.22% - 0.33%) in 2011 and is steadily declining. Despite 57% reduction in new infections, due to a large population, India is estimated to have around 116,000 annual new HIV infections among adults [1] and is concentrated in the age group of 25 - 34 [2]. India's HIV epidemic is heterogeneous and concentrated in nature with high prevalence among high risk groups [3]. However, growing body of research the heightened vulnerability of women in monogamous relationship due to their husband's/partner's risky sexual behaviour [4]. This vulnerability is further aggravated among women living in slum communities as there is ample evidence to suggest that infection rates are higher in urban areas and slum dwellers tend to be disproportionately affected [5] [6].

Men living in slums are more likely to indulge in risky behaviour and have multiple sexual partners than those living in formal housing with better social and living environment [7]. These behaviours are mainly an outcome of peer pressure, social network, easy availability of country liquor, presence of local breweries and video parlours, lack of healthy means of entertainment, lack of proper and complete knowledge about sexuality and HIV/AIDS. Additionally, migrants in slums are more prone to indulge in risky behaviour due to availability of some disposable income coupled with social and environmental factors.

Multiple sexual partnerships are a core indicator used in assessing an individual's risk level. This coupled with non use of consistent use of condom increases the risk of HIV. Almost one-thirds of HIV positive men reported to have two or more sexual partners in their life time [2]. Therefore, it is important to understand different dimensions of risky sexual behaviours including number and types of sexual partners and their indulgence in unprotected sexual activities among adult men. The paper views that the numbers and nature and pattern in partner exchange rate and adaptation of safe sexual practices play a pivotal role in the transmission of HIV epidemic from high risk to low risk population. Hence, it is important to understand the variation in transition of the sexual partners.

The paper has tried to assess by using NFHS-3 data about the pattern of sexual partnerships, variation in sexual partner's transition among slum and non-slum populations, prevalence of HIV infection across the social strata, and the types and frequency of sexual practices. Nevertheless paper this may facilitate in analyzing the consistent use of condom among partners through negotiations for prevention of HIV infection and STD transmission among slum and non-slum population.

## 2. Material and Methods

In this paper, we used India's National Family Health Survey-3 (NFHS-3) data to estimate the variation in the type of sexual partners among sexually active men aged 15 - 54 with more than one sexual partner in last 12 months prior to the survey [2] [8] [9]. The NFHS-3 was carried out in 2005-06 by the Ministry of Health and Family Welfare, Government of India, in association with the International Institute for Population Sciences, Mumbai, serving as the nodal agency. NHFS-3 provided separate estimates of population, health, and nutrition indicators for eight cities (Chennai, Delhi, Hyderabad, Indore, Kolkata, Meerut, Mumbai, and Nagpur) and for the slum and non-slum populations in each of these cities. The survey was done with a representative sample of approximately 2000 households with about 1000 households each from enumeration areas designated as slum and non-slum areas within the municipal corporation limits of these cities according to the 2001 census. State weights were used to correct for the oversampling, so that indicators based on these data are representative at the city level, as well as for slum and non-slum areas within the cities [8]-[10]. The paper specifically used data on sexually active men aged 15 - 54 with more than one sexual partner including the last partner and the second last sexual partner in last 12 months prior to survey.

### 2.1. Measures

In the NHFS-3 survey, respondent were asked how many sexual partners they had in the past 12 months. The reason for 12 month reporting period was to minimize recall errors, and include a large portion of a respondent's sexual life to be statistically meaningful. Respondents who reported two or more sexual partners in the last 12 months were categorized as having multiple sexual partners.

Standard socio-demographic and behavioural measures were obtained that assessed respondents age ( $\leq 24$ , 25 - 34, 35 - 44, 45 and above), education (in years), marital status (never married-including gauna not per-

formed, married living with wife, married living elsewhere, widow/divorced/separated/deserted), pre-marital sex, consistent condom use, wealth index (poorest, poorer, middle, richer, richest) and place of residence (slum, non-slum). In this analysis, “never married” and “gauna not performed” were grouped together, as these categories are usually similar in terms of risk factors. The types of sexual partners have been categorized into five groups namely Spouse; Girlfriend/Live-in-partners; Other friends/relatives; Casual acquaintances/others and Female sex workers in order to have meaningful insights in to the risk behaviour [2] [9].

## 2.2. Statistical Model

We used the discrete markov chain model [2] to estimate the transition probabilities of sexual partners among sexually active men aged 15 - 54 with more than one sexual partner in the year preceding survey.

Description of a Markov Chain is as follows:

Let  $S = \{s_1, s_2, \dots, s_k\}$ ,  $k = 5$ , is the state space of stochastic process. The process starts in one of these states and moves successively from one state to another. Each move is called a step. If the chain is currently in the state  $s_i$ , then it moves to state  $s_j$  at the next step with a probability denoted by  $p_{ij}$ , and this probability does not depend upon which states the chain was in before the current state. The probabilities  $p_{ij}$  are called transition probabilities that the respondents having earlier sexual relation with sexual partner  $i$  moves to partner  $j$  during the sexual encounter with last type of partner, where sexual encounters with both the sexual partners have occurred in the 12 months prior to the survey ( $i, j = 1, 2, \dots, k; k = 5$ ). The process can remain in the state it is in, and this occurs with probability  $p_{ii}$ .

These transition probabilities satisfied the following properties:

$$p_{ij} \geq 0 \text{ and } \sum_{i=1}^k p_{ij} = 1.$$

and the matrix  $P = (p_{ij})$  is the transition matrix of the chain.

Suppose that  $p_{10}, p_{20}, p_{30}, \dots, p_{k0}$  are the probabilities that respondent has sexual relations with  $S_1, S_2, \dots, S_k$  type of partners in their sexual intercourse with the second last sexual partner and under the condition that the probability of moving from  $i^{\text{th}}$  type of sexual partner to the  $j^{\text{th}}$  type of sexual partner does not depend upon how it reaches to the  $j^{\text{th}}$  place, one step current probabilities  $p_{1c}, p_{2c}, \dots, p_{kc}$  of a respondent to have sexual intercourse with different type of sexual partners  $S_1, S_2, \dots, S_k$  can be obtained using the formula, if the probability of  $p_{i0}$  and  $p_{ij}$  are known:

$$p_{jc} = \sum_{i=1}^k p_{i0} p_{ij} \text{ for } j = 1, 2, 3, \dots, k$$

where  $p_{i0} = n_{i0}/n$  and  $p_{ij} = n_{ij}/n_{i0}$ .

$n_{i0} = \sum_{i=1}^k n_{ij}$  and  $n_{ij}$  that is the number of respondents having relationship to their second last sexual partners  $S_i$  and moved to have sexual intercourse with type of partners  $S_j$  currently for one step for  $i \& j = 1, 2, 3 \dots, k$ . The  $p_{jc}$  is given by [4]:

$$p_{jc} = \sum_{i=1}^k p_{i0} p_{ij} \text{ for } j = 1, 2, 3, \dots, k$$

## 3. Results

In the present study about 61% men had ever experienced sexual intercourse while it was observed that of these about 91% were sexually active in the last 12 months. Among sexually active men, 1.3 percent reported having more than one sexual partner in the last 12 months prior to the survey. **Table 1** shows the distribution of sexually active men in the year preceding survey by the selected characteristics. Fewer men are under 25 years of age; percent of slum population in this age group two times higher than in non-slum areas. Nearly half the men have had more than 10 years of education; in comparison to slum, more non-slum men have had more than 10 years of education. Overall, about 86% of married men are living with their wife whereas in non-slum about 90% and in slum about 80% are living with their wife. In slum 9.4% men have had pre-marital sexual relation in comparison to 6% of men living in non-slum. About 88% of men reported of using condom consistently and there is slight difference in condom use among slum and non-slum men. More than half of the men interviewed are richest in the study population. The proportion of richest men is higher in non-slum areas; however, the proportion of richer men is higher in slum areas.

**Table 2** presents percentage distribution of men aged 15 - 54 by number of sexual partners in the year preceding

**Table 1.** Number and percentage distribution of men aged 15 - 54, by selected background characteristics according place of residence, eight cities sample, NFHS-3, 2005-2006.

Background characteristic	Slum Area		Non-Slum Area		Combined	
	N	%	N	%	N	%
<b>Total</b>	896	100	1603	100	2498	100
<b>Age (Years)</b>						
≤24	113	12.6	102	6.4	215	8.6
25 - 34	331	37.0	542	33.8	873	35.0
35 - 44	287	32.0	587	36.6	874	35.0
≥45	165	18.4	372	23.2	536	21.5
<b>Education (Years)</b>						
No Education	98	10.9	125	7.8	222	8.9
<5	71	7.9	79	4.9	150	6.0
5 - 9	399	44.5	442	27.6	840	33.6
≥10	328	36.7	958	59.8	1286	51.5
<b>Marital Status</b>						
Never Married	59	6.6	75	4.7	134	5.4
Married Living with Wife	715	79.9	1437	89.7	2152	86.2
Married Living Elsewhere	117	13.1	87	5.5	204	8.2
Widow/Divorced/Separated/Deserted	5	0.5	3	0.2	7	0.3
<b>Pre-Marital Sex</b>						
Yes	84	9.4	97	6.1	182	7.3
<b>Consistent Condom Use</b>						
Yes	783	87.4	1421	88.7	2204	88.2
<b>Cities</b>						
Delhi City	170	19.0	590	36.8	760	30.4
Meerut	29	3.2	36	2.2	64	2.6
Kolkata	34	3.8	65	4.0	98	3.9
Indore	10	1.1	41	2.5	51	2.0
Mumbai	507	56.6	343	21.4	849	34.0
Nagpur	45	5.0	84	5.2	129	5.2
Hyderabad	42	4.6	198	12.4	240	9.6
Chennai	60	6.7	247	15.4	307	12.3
<b>Wealth Index</b>						
Poorest	4	0.4	3	0.2	7	0.3
Poorer	22	2.5	25	1.6	48	1.9
Middle	134	14.9	95	5.9	229	9.1
Richer	367	40.9	368	23.0	735	29.4
Richest	370	41.3	1111	69.3	1481	59.3

**Table 2.** Percentage distribution of men aged 15 - 54 by number of sexual partners in the year preceding the survey, according to selected background characteristics, eight cities sample, NFHS-3, 2005-2006.

Characteristic	Slum Area			Non-Slum Area			Combined		
	N	1	1<	N	1	1<	N	1	1<
		%	%		%	%		%	%
<b>Total</b>	896	98.1	1.8	1603	99.0	1.0	2498	98.7	1.3
<b>Age (Years)</b>									
≤24	113	95.1	4.9	102	92.8	7.2	215	94.0	6.0
25 - 34	331	97.9	2.1	542	99.4	0.6	873	98.8	1.2
35 - 44	287	99.0	1.0	587	99.5	0.5	874	99.3	0.7
≥45	165	99.1	0.9	372	99.4	0.6	536	99.3	0.7
<b>Education (Years)</b>									
No Education	98	98.0	2.0	125	99.8	0.2	222	99.0	1.0
<5	71	97.1	2.9	79	97.9	2.1	150	97.6	2.4
5 - 9	399	97.9	2.1	442	99.0	1.0	840	98.5	1.5
≥10	328	98.6	1.4	958	99.0	1.0	1286	98.9	1.1
<b>Marital Status</b>									
Never Married	59	86.8	13.2	75	89.4	10.6	134	88.3	11.7
Married Living with Wife	715	98.7	1.3	1437	99.5	0.5	2152	99.2	0.8
Married Living Elsewhere	117	100.0	0.0	87	99.5	0.5	204	99.8	0.2
Widow/Divorced/Separated/Deserted	5	99.2	0.8	3	100.0	0.0	7	99.5	0.5
<b>Pre-Marital Sex</b>									
Yes	84	97.9	2.1	97	94.1	5.9	182	95.9	4.1
<b>Consistent Condom Use</b>									
Yes	783	98.0	2.0	1421	99.0	1.0	2204	98.6	1.4
<b>Cities</b>									
Delhi City	170	96.6	3.4	590	99.3	0.7	760	98.7	1.3
Meerut	29	96.6	3.4	36	97.5	2.5	64	97.1	2.9
Kolkata	34	98.6	1.4	65	98.9	1.1	98	98.8	1.2
Indore	10	98.8	1.2	41	98.0	2.0	51	98.2	1.8
Mumbai	507	98.9	1.1	343	99.3	0.7	849	99.0	1.0
Nagpur	45	96.8	3.2	84	98.9	1.1	129	98.1	1.9
Hyderabad	42	97.6	2.4	198	98.6	1.4	240	98.4	1.6
Chennai	60	97.7	2.3	247	98.8	1.2	307	98.5	1.5
<b>Wealth Index</b>									
Poorest	4	100.0	0.0	3	100.0	0.0	7	100.0	0.0
Poorer	22	98.1	1.9	25	100.0	0.0	48	99.1	0.9
Middle	134	97.1	2.9	95	98.8	1.2	229	97.8	2.2
Richer	367	98.0	2.0	368	99.1	0.9	735	98.6	1.4
Richest	370	98.6	1.4	1111	99.0	1.0	1481	98.9	1.1

the survey, according to background characteristics. Most men (98.7%) had only one sexual partner during the year preceding the survey; 1.3% had more than one sexual partner. Nearly 1.8% men in Slum and 1.0% men in Non-slum reported having more than one sexual partner. The proportion of men with multiple sexual partners is higher among men who are under age 25 years than are 25 years or older; among under age 25 years it is higher in non-slum (7.2%) than slum (4.9%). Considerably a higher proportion of men with 5 years of education reported having multiple sexual partners. Nearly 11.7% never married men had multiple sexual partners during the year preceding the survey (13.2% in slum, 10.6% in non-slum). Among those who had pre-marital sexual relationship, 4.1% men reported having more than one sexual partner; it is high among men in non-slum (5.9%) than slum (2.1%). Only 1.4% consistent condom users reported more than one sexual partner (2.0% in slum; 1.0% in non-slum). Among Cities, overall higher proportion of multiple sexual partners was observed in Meerut followed by Nagpur, Indore, Hyderabad, Chennai, Delhi City, and Mumbai. Distribution by slum and non slum illustrates that it was higher among men in Delhi city and Meerut slum followed by Nagpur and Hyderabad whereas in non-slum, it was higher in Meerut followed by Indore and Nagpur. Almost 2.2% men in middle class reported more than one sexual partner followed by richer, and richest. More slum men reported having multiple sexual partners than non-slum in all categories. Among slum, men in middle class reported having more multiple sexual partners followed by richer, and richest class. There was a modest decline with age in the proportion of men who reported multiple sexual partners among men in slum.

**Table 3** presents percent distribution of men aged 15 - 54 years who had had multiple sexual partners in the year preceding the survey by their relationship with the last sexual partners and the second last sexual partners. It was reported that for 94.3% men the last partner was their spouses followed by girlfriends/live-in partners (3.7%), friends or relatives (1.0%), female sex workers (0.7%), and casual partners (0.2%). Fewer men (0.9%) were engaged in sexual activity with previously unknown person. About 6.7% men in slum and 4.9% men in non-slum reported that their last partner was not their wives; they indulged in high risk sexual behaviour. Nearly 4.9% men in slum had girlfriends/live-in-partners as the last sexual partners compared to 3.1% men in non-slum. Slightly less men in slum reported having other friends and relatives as the last sexual partner than men in non-slum. Data in table reveals that a higher proportion of men in slum reported having female sex workers as the last sexual partner; 0.8% men in slum and 0.6% men in non-slum had female sex workers as the last sexual partner.

It is observed from **Table 3** that spouses were not the main second last sexual partner. For men in slum and non-slum areas the main second last sexual partner were their girlfriends/fiancé, other friends/relatives, casual acquaintance and female sex workers; Only 15.2% men reported that their second last partner were their wives; nearly 6 percent of men mentioned casual acquaintances, 27 percent female sex workers, 36.4 percent girlfriends/fiancé/live-in partners and 12% of men mentioned other friends or relatives other than their wives. Most

**Table 3.** Percentage distribution of men age 15 - 54, by their relationship with the sexual partners in the year preceding the survey, eight cities sample, NFHS-3, 2005-2006.

Background characteristic	Spouse	Girlfriend/Fiancé/ Live-in-partners	Others friends/ Relatives	Casual acquaintance/ Others	Female sex workers	Total
<b>Types of the last sexual partners</b>						
<b>Place of residence</b>						
Combined	94.30	3.70	1.00	0.20	0.70	2498
Slum area	93.30	4.90	0.90	0.20	0.80	896
Non-slum area	95.10	3.10	1.00	0.20	0.60	1602
<b>Types of the second last sexual partners</b>						
<b>Place of residence</b>						
Combined	15.20	36.40	12.10	6.10	27.30	33
Slum area	25.50	39.40	11.70	6.70	16.70	17
Non-slum area	4.70	36.20	15.50	5.90	37.80	16

men have reported female sex workers and girlfriends/fiancé/live-in-partner as their second last sexual partner. Only one fourth men in slum areas reported having their wives as the second last partner compared to 39.4% who reported girlfriends/fiancé/live-in-partner, 11.7% who reported other friends/relatives, 6.7% who reported casual acquaintance and 16.7% who reported female sex workers as the main second last sexual partner. Among men in non-slum areas a very large proportion of men reported not having their wives as the main second last partner. Only, 4.7% men reported having their wives as the main second last partner; while 36.2% reported girlfriends/fiancé/live-in-partner, 15.5% reported other friends/relatives, 5.9% reported casual acquaintance and 37.8% reported female sex workers as the main second last partner.

**Table 4** presents the estimates of transition probabilities for the types of second last sexual partners to the types of last sexual partners among men having multiple sexual partners in the year preceding survey. For men whose second last partners were their wives, the transition probability to have their wives as their last partner was 0.81. The transition probabilities of such respondents from spouse to girlfriend/fiancé/live-in partner or other friends or relatives or female sex workers, as the last sexual partners, were 0.03, 0.12 and 0.04 respectively. While, the transition probabilities from girlfriend/fiancé/live-in partner or other friends or relatives or casual

**Table 4.** Estimates of the transition probabilities for the type of second last sexual partner to the Type of last sexual partner by the place of residence, eight cities sample, NFHS-3, 2005-2006.

	Types of last sexual partners				
	Spouse	Girlfriend/Fiancé/ Live-in-partners	Others friends/ Relatives	Casual acquaintance/ Others	Female sex workers
Spouse	0.81	0.03	0.12	0.0	0.04
Girlfriend/Fiancé/Live-in-partners	0.40	0.55	0.03	0.0	0.02
Others friends/Relatives	0.73	0.17	0.07	0.0	0.03
Casual acquaintance/Others	0.46	0.04	0.00	0.0	0.5
Female sex workers	0.27	0.17	0.01	0.0	0.55
$p_i$	0.15	0.37	0.13	0.06	0.26
$P_{jc}$	0.47	0.28	0.04	-	0.19
<b>Slum</b>					
Spouse	0.86	0.01	0.14	0.0	0.0
Girlfriend/Fiancé/Live-in-partners	0.34	0.6	0.03	0.0	0.03
Others friends/Relatives	0.7	0.2	0.09	0.0	0.02
Casual acquaintance/Others	0.26	0.03	0.00	0.0	0.71
Female sex workers	0.29	0.02	0.03	0.0	0.67
$p_i$	0.25	0.39	0.12	0.07	0.17
$P_{jc}$	0.5	0.27	0.06	-	0.17
<b>Non-slum</b>					
Spouse	0.53	0.18	0.0	0.0	0.29
Girlfriend/Fiancé/Live-in-partners	0.47	0.5	0.02	0.0	0.01
Others friends/Relatives	0.76	0.15	0.05	0.0	0.04
Casual acquaintance/Others	0.72	0.05	0.0	0.0	0.23
Female sex workers	0.27	0.24	0.0	0.0	0.49
$p_i$	0.05	0.35	0.15	0.06	0.37
$P_{jc}$	0.45	0.3	0.02	-	0.22

acquaintance/others or female sex workers, as the second last partners to spouse as the last sexual partner, were 0.40, 0.73, 0.46 and 0.27 respectively. The transition probabilities of those men having girlfriend/fiancé/live-in partner or female sex workers as the second last partners to the same category as their last sexual partners, were 0.55 and 0.55 respectively. The marginal probability ( $p_i$  and  $p_{jc}$ ) shows that the probability of spouse being the sexual partner has increased from 0.15 in the second last sexual partner to 0.47 in case of the last sexual partner. In case of other four categories of non-spousal sexual relations there is a considerable decline in probabilities.

It was observed that the transition probability for men whose second last partners were their wives, to have their wives as their last sexual partners varied across slum areas and non-slum areas. The probabilities for transition from wives as second last partners, to wives as last sexual partners were observed higher among slum men than non-slum men (0.86, 0.53 respectively). It was found that the transition from spousal to non-spousal or non-spousal to spousal partners, as the second last sexual partners to the last sexual partners, was slightly different among slum and non-slum men. In case of slum, it is observed that the probability of transition for spouse to other friends/relatives as the last sexual partners was 0.14; however, the probability of transition was reported as 0.27 for female sex workers as the last sexual partners in case of non-slum. The transition probabilities among slum men from casual partners to casual partners or female sex workers to female sex workers, as the second last to last sexual partners, were higher (0.71 and 0.67 respectively) than non-slum men (0.23 and 0.49). There is a higher increase in the probability of sex with spouse from second last to the last sexual partner in non-slum areas than slum areas. However, in case of transition from other friends/relatives and female sex workers to spousal partners, there is a major decline in probability among non-slum men than slum men.

#### 4. Discussion

According to National Family Health Survey (NFHS-3) in India, nearly 30 percent of adult men in India have never had sexual intercourse [2] [9]; however, our study shows that about 39% of adult men in eight cities have never had sexual intercourse. Among those who ever experienced sexual intercourse, almost two-fifths of them have had two or more sexual partners [2] [9]; while it is 1.3% in selected eight slum cities. Men who are more likely to have two or more partners are those who are young, especially below age 25 years, never married, educated up to 5 years, and from middle class. Men with pre-marital sexual relationship and from Meerut and Nagpur cities are more likely to have multiple sexual partners. There is profound variation in the proportion of men indulging in high-risk sexual intercourse by their place of residence. The proportion of men with multiple sexual partners is higher among those living in slum than non-slum areas. However, the proportion of men under age 25 years with two or more sexual partners is higher in non-slum than slum population. Such risky sexual behaviours of men have serious implications due to the fact that the issue of protection or use of condom in these activities is compromised.

The finding shows that for most men, spouses are the main last sexual partner. However, interestingly, the second last partner is not confined only to spouse; it shows much more about partner preferences. Only 15% - 20% reported that their second last sexual partner was their spouse. For men in slum and non-slum areas the main second last sexual partner were their girlfriends/fiancé, other friends/relatives, casual acquaintance and female sex workers. It is a notable fact that higher proportion of men among slum population were reportedly having their spouses as the second last sexual partners in comparison non-slum. However, a higher proportion of non-slum's men were having female sex workers as their second last sexual partners than slum.

It was found that the transition from spousal to non-spousal or non-spousal to spousal partners, as the second last sexual partners to the last sexual partners, was slightly different among slum and non-slum men. The probabilities for transition from wives as second last partners, to wives as last sexual partners were observed higher among slum men than non-slum men (0.86, 0.53 respectively). It is observed that the probability of transition for casual acquaintance/other friends to spouse as the last sexual partners was 0.29 in slum areas as against 0.72 in non-slum areas. A relatively profound transition probability from non-spousal to non-spousal sexual relations in case of the second last sexual partner across slum-non slum place of residence is observed in case of female sex workers (0.67 in slum areas as against 0.49 in non-slum areas).

There is a higher increase in the probability of sex with spouse from second last to the last sexual partner in non-slum areas than slum areas. However, in case of transition from other friends/relatives and female sex workers to spousal partners, there is a major decline in probability among non-slum men than slum men. These transitions are extremely important from the perspective of curbing the spread of HIV epidemic, especially in

situation where women lack control over their own sexuality and seldom are empowered to negotiate condom use in marital sex. As a result, these transitions are more likely to put forward serious challenges for reducing women's vulnerability to STI/HIV in India.

## 5. Conclusion

Our findings provide an initial view of the variation of transition in sexual partners among slum & non-slum populations in the eight cities of India. A more exact assessment of the variation in sexual partner's transition among slum and non-slum populations requires data about the size, the prevalence of HIV infection across the social strata, and the types and frequency of sexual practices. Such an assessment would shape the future of HIV infection and STD transmission among slum and non-slum population.

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