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**Perception of Power Dynamics and Risky Sexual  
Behavior in Indian Men**

by

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## **Abstract**

**Background:** Women account for about a third of all new cases of HIV in India. Based on research examining trends of HIV infection in women, male perception and behaviors have emerged as strong potential risk factors. However, there has been limited research examining the relationship between male's attitudes toward women and their sexual risk-taking behaviors. This study examined the degree to which men's beliefs about power dynamics in heterosexual relationships are related to risky sexual behaviors in Indian men.

**Methods:** Data on Indian men from the 2005-2006 National Family Health Survey (NFHS-3) was analyzed (N= 44,727). The outcome variable, risky sexual behavior, was created using a composite variables characterized by multiple sexual partners, pay for sex, sexual relationships with individuals other than wife or girlfriend, or a history of sexually transmitted diseases in the past 12 months. Men's beliefs about power dynamics in heterosexual relationships was examined using the following predictor variables: a) women's role in decision-making, b) acceptability of domestic violence, and c) acceptability of refusing sex. Age, marital status, standard of living, education, religion, region, knowledge of HIV, alcohol use, and family history of domestic violence were examined as covariates. Multiple logistic regression was used to examine the association.

**Results:** Men who believed that women should rarely OR=1.73 [CI 1.36, 2.20] or sometimes be involved with decision-making OR=1.33 [CI 1.13, 1.56] were more likely to report risky sexual behavior as compared to those who believed that women should be involved most of the time. Additionally, men who had favorable attitude towards perpetrating domestic violence were 56% more likely to report risky sexual behavior OR=1.56 [CI 1.37, 1.79]. Similarly, men who believed that it was never acceptable for a woman to refuse sex were 43% less likely to engage in risky sex OR=1.43 [CI 1.27, 1.69].

**Conclusion:** Men who expressed a preference for male-dominant decision making, acceptance of violence towards women, or the belief that women should not have autonomy in sexual matters are more likely to engage in behaviors that put themselves and their female partners at risk for HIV infection. Comprehensive HIV prevention programs should address power dynamics as a component of HIV risk.

## **Introduction**

The HIV/AIDS epidemic continues to disproportionately affect nations in the developing world. Although the prevalence in South Asian nations is relatively low, the number of individuals infected with HIV living in this region is of great public health significance due to its high population density.<sup>1</sup> This is particularly the case in India, South Asia's most populated nation with an estimated 2.5 million cases of HIV/AIDS. Currently only 3% of women and 4% of men have been tested for HIV making accurate prevalence estimates difficult.<sup>2</sup> World wide, knowledge about HIV/AIDS is increasing; however, only 61% of Indian women and 84% of Indian men have heard of AIDS. The HIV epidemic in India is further compounded by the low rate of condom use in the country. Female sterilization accounts for 66% of all contraceptive use, and condom usage among sexually active men remains very low.

Women account about a third of all new cases in India. Heterosexual transmission is the most common form of infection and the majority of infected women in India report monogamous relationships. A retrospective study conducted on HIV infected women in south India found 89% of women interviewed reported heterosexual sex as their only HIV risk factor; and 88% reported a history of monogamous relationships.<sup>3</sup> Low social status, economic disadvantage, and lower literacy and employment place women at increased risk for HIV.<sup>4</sup> Indian women are often subject to early marriage, with more than half of Indian women married by age 18; while men marry on average six years later. Most Indian women experience their first sexual contact at the time of marriage; however, it is more socially acceptable for men to engage in sex before marriage as well as extramarital sex.<sup>5</sup>

Globally, the risk factors for HIV transmission to women are numerous. Physical, economic, social and cultural factors are particularly of major concern, as HIV status is often marginally related to women's sexual risk taking behaviors. A 2008 study using data from a nationally representative sample of 124,385 married women, (The Indian National Family Health Survey 3), reported that women who experience sexual or physical violence are more likely to contract HIV; regardless of their own risk behaviors.<sup>6</sup> Similarly, other studies also reported that power differentials established through cultural and gender norms allow men to place women at risk of HIV infection as a result of their unsafe practices.<sup>3,5,7-9</sup>

Qualitative interviews with women from the slums of Delhi and Hyderabad, India found that lack of education, low empowerment in expressing and accessing information related to sexual matters, and poverty were key factors leading to vulnerability for HIV/AIDS.<sup>7</sup> These findings have been replicated in qualitative studies examining risk for women in both the United States and South Africa where decision making regarding condom use was strongly associated to gender inequality.<sup>10,11</sup> Cross-sectional studies in South Africa have found that high levels of male control were significantly associated to women's risk for HIV.<sup>10</sup>

Based on research examining trends of HIV infection in women, male perception and behaviors have emerged as strong potential predictors.<sup>6,10,12-14</sup> However, there has been limited research examining the relationship between male attitudes toward women and risky sexual behavior. One study using structured interviews with 1,275 young men in rural South Africa, found that research participants who reported violence against a partner engaged in significantly higher levels risky sexual behavior.<sup>15</sup> Additionally, men

who reported violence against a partner were more likely to use coercive tactics or financial transactions to gain access to sex.<sup>16</sup> Although men have been recognized as important targets of public health interventions to decrease HIV/AIDS transmission, and necessary for any program for increasing women's empowerment, research examining these relationships is scarce.<sup>12</sup>

Intervention programs that have targeted heterosexual males have largely neglected to address underlying power dynamics related to sexual behavior and have focused more on education to reduce risk.<sup>12</sup> Furthermore, male perspectives about female empowerment are often discordant with their female partners, and in the case of India men, tend to overstate women's agency and autonomy.<sup>17</sup> To effectively tailor risk reduction interventions in men, it is essential to understand how their perception of women's roles impacts the acceptability of behaviors that place both the men and their partners at risk.

This study will examine the impact Indian male's perception of power dynamics, including women's role in decision-making, views towards domestic violence, and acceptability of refusing sex, on risky sexual behavior.

## **Methods**

This study used the third National Family Health Survey (NFHS-3) of India. Data were collected from 2005-2006 for 109,041 households, including 124,385 women and 74,369 men age 15-54. NFHS-3 used a stratified, multistage cluster sampling strategy to collect a nationally representative household-based sample.<sup>2</sup> Two stages were used for rural areas and three stages for urban areas. Primary sampling units (PSU) were

comprised of one or more villages in rural areas and census enumeration blocks in urban areas. The selection of PSUs was based on probability sampling proportional to the population. Households were enumerated and then randomly selected within the PSU.

Individuals at selected household were interviewed on fertility, mortality, family planning, HIV-related knowledge, nutrition, health care, adolescent reproductive health, higher-risk sexual behavior, family life education, and knowledge about tuberculosis. This is the third in the series of Demographic and Health Surveys collected on India, with NFHS-1 collected 1992-93 and NFHS-2 collected 1998-99.<sup>2</sup>

This study included responses for all males age 15-54 who had valid responses questions related to risky sexual behavior (N= 44,727).

## Definitions

**Risky Sexual Behavior:** Risky sexual behavior, the outcome variable of interest; was created using a composite variables characterized by multiple sexual partners, pay for sex, sexual relationships with individuals other than wife or girlfriend, or a history of sexually transmitted diseases in the past 12 months. The following questions were used in creating high-risk sexual behaviors:

- In the last 12 months, did you pay anyone in exchange for sex? (yes vs. no)
- In total, with how many different people other than your wife have you had sex in the last 12 months? (for unmarried respondents 0 or 1 vs. 2 or more; for married respondents 0 vs. 1 or more)
- What was this person's relationship to you? (wife, girlfriend, or live in partner vs. casual acquaintance or prostitute)

- During the last 12 months, have you had a disease, which you got through sexual contact? (yes vs. no)
- During the last 12 months, have you had an abnormal discharge from your penis? (yes vs. no)
- During the last 12 months, have you had a sore or ulcer on or near your penis? (yes vs. no)

To assess power dynamics three main predictor variables were examined: women's role in decision-making, acceptability of domestic violence, and acceptability of refusing sex.

**Decision Making:** was assessed using men's belief towards the role of women in deciding household finances, visiting relatives, and number of children to have. For questions related to financial decisions, answers were scored 0 if the male made the decision alone, and 1 if the he felt that female should participate. Questions about when to visit relatives and how many children to have were scored 0 if the male felt that he should make the decision alone, 1 if the male felt that he and the female should make the decision together and 2 if the man felt that the female should have the final say. These items were summed and then divided into three levels to indicate if women were involved with decision making most of the time, sometimes or rarely.

**Domestic Violence:** men were asked if it is acceptable to hit a woman if she burns food, leaves the children unattended, argues, refuses sex, or goes out without telling her husband. Men who answered that violence is acceptable under any circumstance, were considered to have favorable attitude towards domestic violence.



***Refusal of Sex:*** beliefs about women's ability to refuse sex were also dichotomized as ever being unacceptable or always being acceptable. Men were asked if it was appropriate for a woman to refuse sex if she knows her husband has an STI, if she is tired, or if she knows that her husband has cheated on her. Men who considered refusal unacceptable under any of these circumstances were classified as having a dominant view towards sexual relationships with women.

***Other Covariates:*** This study examined covariates such as age, marital status, standard of living, education, religion, geographic region of residence, knowledge of HIV prevention, alcohol use, and family history of domestic violence. Age was classified as 15-19, 20-24, 25-29, 30-39, 40-49, and 50 and over. Education level ranged from no education, primary education only, secondary education, to some higher education. A derived variable to represent the overall living conditions was used to examine high, medium, or low standard of living. This variable included information such as access to water, type of housing, ownership of land, access to sanitation, and material possessions. Hindu, Muslim, and Christian religions were examined as they are among the most common religions in the region. Other religions were classified as "other." Geographic regional differences were categorized according to conventions of the National Family Health Survey for India, North, South, East, West, Central and Northeast. Living in either an urban and rural residence was also examined. Questions regarding knowledge of HIV prevention asked to determine if men were aware of ways to avoid contracting the disease. These included sex with a prostitute, using a condom, and having a monogamous sexual relationship. Men who had knowledge of all three strategies for prevention were said to have adequate knowledge, those who correctly identified two strategies were

classified as having some knowledge, those who correctly answered only 1 were said to have low knowledge, and those who did not correctly answer any of the questions were classified as having no knowledge of HIV prevention. These items were selected as essential elements of HIV prevention, which were germane to the outcomes of interest in this study. Alcohol consumption and family history of domestic violence were examined as dichotomous variables.

### **Data Analysis**

Descriptive analysis was conducted and frequencies were examined. Crude odds ratio and 95% confidence interval were calculated to assess the association between risky sexual behavior and covariates listed above. The data was tested for interactions and confounders were assessed for each of the three outcomes of interest using change of estimate methodology. Multiple logistic regression was used to examine the association controlling for confounders in each model. Model-1 examined the relationship between decision-making and risky sexual behavior controlling for marital status, age, standard of living, educational attainment, knowledge of HIV prevention, and family history of domestic violence. The impact of acceptability of domestic violence on risky sexual behavior was examined in Model-2 controlling for age, knowledge of HIV, region, and family history of domestic violence. Model 3 assessed the relationship between acceptability of refusing sex and risky sexual behavior. No variables were found to confound this relationship. Adjusted odds ratios and 95% confidence intervals were calculated for each of the model in the final analysis.

## **Results**

Characteristics of the study population are shown in Table 1. The majority of the sample was married (96%), Hindu (82.6%), age 30-39 (36.6%), and had a secondary level education (45.6%). Only 5% of the sample was unable to correctly identify any means for preventing HIV and 68% correctly identified three strategies. The sample was evenly distributed across regions; however the majority of respondents lived in rural areas (66%). Over a quarter (27%) reported family history of domestic violence and 39% use alcohol.

Those who reported risky sexual behavior were between the ages of 30 and 39, had a secondary level education, reported a moderate standard or living, married, Hindu, and living in East India (Table 1). Over two-thirds demonstrated adequate knowledge of HIV prevention and approximately one-third reported family history of domestic violence

The crude analysis on table 2 shows that there were statistically significant associations between risky sexual behaviors and age, education, marital status, standard of living, religion, region, men's perception of women's role in decision making, acceptance of sex refusal and domestic violence. Young men were more likely to engage in risky sex. Those between the age of 15 and 19 were fifteen times more likely to engage in risky sex than those over 50. Men with no higher education were about 1.6 times more likely to have risky sex than those with some higher education. Men who have medium or low standard of living were significantly more likely to have risky sex as compared to men from higher standard of living. Men who were never married were most likely to engage in risky sex (OR=20.4, 95% CI=17.4-24.0), followed by formerly married men (OR=14.1, 95% CI=9.4-21.3). Christians and men living in Southern India had lower

risky sexual behavior. Alcohol use, living in a rural area, and having a family history of domestic violence were all associated with risky sexual behavior.

Crude and adjusted odds ratio for the main predictor variables are shown in Table 3. Compared to men who believed that women should be involved in decision making most of the time, those who believed that women should be involved rarely and sometimes were 1.7 and 1.3 times more likely to report risky sexual behaviors, respectively (OR=1.73, [95% CI 1.36, 2.20] OR=1.33 [95% CI 1.13, 1.56]). Additionally men who have favorable attitude towards perpetrating domestic violence were 56% more likely to report risky sexual behavior (OR =1.56 95%CI 1.37, 1.79). Similarly, those who believed that it was ever unacceptable for a woman to refuse sex were 43% more likely to engage in risky sex (OR=1.48 [95% CI 1.27,1.69]).

## **Discussion**

The results of this study indicate that men who have a preference for male-dominated decision-making regarding financial matters, visiting relatives and family size were more likely to engage in risky sex. Previous studies have examined women's role in decision-making as a potential risk factor for HIV.<sup>4,9,11,19</sup> HIV infected women in India often lack agency in multiple domains of decision-making.<sup>4</sup> Women who have less power in decision-making may also feel less able to persuade their partners to make safe sexual decisions such as condom usage.<sup>9,11,19</sup>

This study also shows that men's perceptions about domestic violence were significantly related to their sexual risk. Men who believed that it was ever acceptable to use violence against a partner were more likely have sex with a casual acquaintance or prostitute, have multiple sexual partners, or have contracted a sexually transmitted

infection within the past year. Multiple studies have examined the relationship between physical violence and sexual risk. Research evaluating the relationship between HIV and gender roles suggests that the threat of physical violence causes women to engage in sex even when they may be at risk for disease.<sup>13,14,19</sup> The relationship between risky sex and violence against women is consistent with findings from previous studies in South Africa that have shown that men who engage in intimate partner violence are more likely to have risky sexual practices, including paying for sex.<sup>10,15,16</sup>

This study also supports the hypothesis that men who believe that it is unacceptable for a woman to refuse sex are more likely engage in risky sex. The relationship between the women's lack of agency to refuse sex and her risk for HIV has also been shown in several studies.<sup>4-6</sup> Women who reported sexual violence as a result of refusing sex with their partner, were more likely to engage in risky sexual encounter even when they know it places them at risk for sexually transmitted diseases.<sup>4,5</sup> Married Indian women who experienced sexual partner violence were more likely have HIV.<sup>6</sup>

This study indicates that women who lack agency in sexual relationships are at risk for sexually transmitted infections based on the behavior of their male partners. Men who believe that domination of a woman is acceptable may place less value on the comfort and safety of their wife and feel less of an obligation to remain faithful, and to protect their wife from risk.<sup>8</sup> Cultural norms and values significantly influence the power dynamics as it relates to high risk sexual behaviors. Overall, women in India have less access to power, resources and information.<sup>4</sup> These cultural factors seem to be compounded by environmental factors such as standard of living and education. Women from low resource backgrounds are more likely to be at risk for a number of conditions,

including HIV. These conditions seem to co-occur with relationships with a high degree of inequality.<sup>19</sup>

A key strength of this study is that the findings are based on a large nationally representative population based dataset surveying Indian men age 15-54. Previous population based surveys in India have directed questions concerning women's empowerment and power dynamics only to female respondents, this study utilized data from NFHS-3 which asked these questions for the first time of young unmarried men and as well as currently and formerly married men. Sociodemographic data, including age, education, standard of living, marital status, and region of residence were controlled where they were found to be confounders. Information about male perception of women's roles was asked in a number of ways and this study explored male domination based on several constructs.

Weaknesses of this study include the inherent bias of self-report data, particularly social desirability. However, social desirability likely led to underreporting in both risky sexual behavior and male dominance. This is consistent with previous research, which shows that men tend to underestimate their dominance towards women.<sup>17</sup> The large number of missing responses for the outcome of interest is also potentially a weakness of this study. Although we believe that this more likely underestimated rather than overestimated the relationships.

Studies have documented that transmission of HIV in India is a result of risky sexual behaviors in the male population.<sup>5,6</sup> Additionally, the conclusions of numerous studies have emphasized the importance of male involvement in gender empowerment programs, and in improving women's sexual and reproductive health.<sup>6, 7, 10, 12, 13, 18</sup>

Previous studies have focused primarily on women's agency in refusing sex or negotiating safe sex and the role of sexual coercion in transmission.<sup>4-6,13,14,19</sup> This study shows that men who are likely to use force to gain access to sex, or have dominant feelings towards women are also more likely to engage in other behaviors that place them at high risk for HIV. Women in these relationships face compounded sexual risk as they are less likely to be able to negotiate safe sex due to the threat of physical or sexual violence, or lack of agency, and are at increased risk due to the sexual behaviors of their partner.

In conclusion, male dominant beliefs are related to risky sex, regardless of knowledge of HIV. This illustrates the insufficient nature of education-based programs, and empowerment programs targeting only women. Comprehensive HIV prevention programs should address power dynamics as a component of HIV risk for both men and women.

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APPENDIX A: Tables

Table 1. Characteristics of the study population

Variable	Total		Risky Sexual Behavior	
	N	%	N	%
<b>Age</b>				
15-19	735	1.9	256	10.0
20-24	3,610	9.2	561	19.8
25-29	6,963	16.1	527	19.6
30-39	16,730	36.6	800	29.2
40-49	12,944	28.2	423	17.5
50 and over	3,745	8.0	110	4.0
<b>Education level</b>				
No Education	8,252	23.1	456	23.5
Primary	8,088	19.5	531	21.2
Secondary	21,680	45.6	1,413	47.7
Higher	6,692	11.8	277	7.6
<b>Standard of Living</b>				
High	21,317	42.5	1,080	33.8
Medium	13,866	33.8	919	38.4
Low	7,546	23.7	514	27.9
<b>Married</b>				
Never	1,723	3.2	796	24.4
Currently	42,803	96.4	1,820	73.0
Formerly	201	0.4	61	2.6
<b>Knowledge of HIV prevention</b>				
No knowledge	1,756	5.1	84	5.0
Low	2,916	7.7	172	8.0
Some	7,127	18.3	453	19.6
Adequate	27,242	68.9	1,661	67.5
<b>Religion</b>				
Hindu	33,365	82.6	1,950	79.7
Muslim	5,487	12.2	381	15.6

Christian	3,819	2.2	180	1.5
Other	1,597	3.0	133	3.2

#### **Region**

North	5,215	14.3	359	14.9
Central	9,930	24.2	671	25.4
East	4,034	21.1	358	30.2
Northeast	7,399	3.6	508	4.4
West	6,644	15.8	356	14.2
South	11,505	20.9	425	10.9

#### **Urban/Rural**

Urban	21,688	33.8	1,146	26.2
Rural	23,039	66.2	1,531	73.8

#### **Alcohol use**

No	25,816	61.1	1,220	49.2
Yes	18,910	38.9	1,456	50.8

#### **Family history of domestic violence**

Yes	30,203	73.0	1,412	54.5
No	10,983	27.0	1,055	45.5

#### **Women Involved in Decisions**

Rarely	4,120	11.4	360	17.7
Sometimes	21,397	48.8	1,609	58.1
Most of the time	19,197	39.8	704	24.2

#### **Domestic Violence**

Not Acceptable	26,047	58.6	1,205	46.8
Ever Acceptable	18,301	41.4	1,446	53.2

#### **Women's Refusal of Sex**

Ever Acceptable	9,262	23.3	749	30.2
Not Acceptable	33,278	76.7	1,835	69.8

#### **Risky Sexual Behavior**

Yes	2677	7.0		
No	42050	93.0		

Table 2. Determinants of Risky Sexual Behavior (Unadjusted Odds Ratios)

Variable	Risky Sexual Behavior		OR	Crude	
	% No	% Yes		95% CI	
<b>Age</b>					
15-19	63.8	36.2	<b>15.81</b>	11.31	22.10
20-24	85.0	15.0	<b>4.91</b>	3.71	6.51
25-29	91.5	8.5	<b>2.58</b>	1.94	3.44
30-39	94.4	5.6	<b>1.65</b>	1.26	2.16
40-49	95.7	4.3	1.26	0.95	1.68
50 and over	96.5	3.5	1.00		
<b>Education level</b>					
No Education	92.9	7.1	<b>1.64</b>	1.29	2.10
Primary	92.4	7.6	<b>1.76</b>	1.40	2.22
Secondary	92.7	7.3	<b>1.69</b>	1.39	2.07
Higher	95.5	4.5	1.00		
<b>Standard of Living</b>					
High	94.6	5.4	1.00		
Medium	92.3	7.7	<b>1.52</b>	1.29	1.80
Low	92.0	8.0	<b>1.46</b>	1.28	1.67
<b>Married</b>					
Never	46.8	53.2	<b>20.42</b>	17.37	24.00
Currently	94.7	5.3	1.00		
Formerly	56.0	44.0	<b>14.11</b>	9.36	21.28
<b>Knowledge of HIV prevention</b>					
No knowledge	93.2	6.8	0.99	0.70	1.40
Low	92.7	7.3	1.07	0.85	1.34
Some	92.5	7.5	1.10	0.94	1.29
Strong	93.1	6.9	1.00		
<b>Religion</b>					
Hindu	93.3	6.7	1.00		
Muslim	91.1	8.9	<b>1.36</b>	1.12	1.66
Christian	95.4	4.6	0.68	0.48	0.94
Other	92.5	7.5	1.13	0.85	1.49

<b>Region</b>					
North	92.7	7.3	1.00	0.82	1.21
Central	92.7	7.3	1.00		
East	90.0	10.0	<b>1.41</b>	1.15	1.73
Northeast	91.5	8.5	1.19	0.93	1.52
West	93.7	6.3	0.85	0.68	1.07
South	96.4	3.6	0.48	0.40	0.58
<b>Urban/Rural</b>					
Urban	94.6	5.4	<b>0.68</b>	0.58	0.79
Rural	92.2	7.8	1.00		
<b>Alcohol use</b>					
No	94.4	5.6	1.00		
Yes	90.9	9.1	<b>1.69</b>	1.50	1.90
<b>Family history of domestic violence</b>					
Yes	94.7	5.3	<b>2.43</b>	2.15	2.74
No	88.1	11.9	1.00		

Table 3. Crude and Adjusted Odds Ratios for Gender Inequality

Variable	Crude			Adjusted		
	OR	95% CI		OR	95% CI	
<b>Model 1 - Women Involved in Decisions</b>						
Rarely	2.75	2.25	3.37	1.73	1.36	2.20
Sometimes	2.05	1.80	2.33	1.33	1.13	1.56
Most of the time	1.00			1.00		
<b>Model 2 – Domestic Violence</b>						
Ever Acceptable	1.67	1.47	1.90	1.56	1.37	1.79
Not Acceptable	1.00			1.00		
<b>Model 3 - Refusal of Sex</b>						
Acceptable	1.00			1.00		
Not Acceptable	1.47	1.27	1.69	1.49	1.25	1.77

Model 1. Adjusted for marital status, age, standard of living, educational attainment, knowledge of HIV, and family history of domestic violence

Model 2. Adjusted for age, knowledge of HIV, region, and family history of domestic violence

Model 3. No confounders were found, a full model adjustment is shown