



RISK BEHAVIOUR FOR HIV INFECTION: A COMMUNITY BASED CROSS SECTIONAL SURVEY AMONG MEN WHO HAVE SEX WITH MEN IN WEST TRIPURA, NORTHEAST INDIA

Community Medicine

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ABSTRACT

Background: The Men who have Sex with Men (MSM) community is one of the largest and most dispersed sexual minority groups. The MSM community frequently engages in high-risk sexual behaviors that increase the chances of getting HIV and other sexually transmitted diseases for themselves and their partners. **Objectives:** To estimate the sexual risk behaviour for HIV infection among men who have sex with men (MSM) in West District of Tripura and also to assess the knowledge and perceptions related to HIV-AIDS among subjects. **Materials and Methods:** The community based cross-sectional study was conducted among 96 adults MSM in the age group of 18 to 45 years residing in West District of Tripura and subjects were selected by using snowball sampling technique. **Results:** The present study showed that majority of MSM (92.7%) had multiple sexual partners and 67.7% MSM reported using a condom sometimes only during anal sex while more than half of the respondents (66.2%) had given reason for not using a condom every time during anal sex was due to rejection from their partners. Most of MSM (78.1%) in this study had high sexual risk behaviours for HIV infection, even though nearly 97.9% MSM had heard of HIV/AIDS. While only 41.7% respondents had adequate knowledge about HIV/AIDS and 41.8 % subjects believed their personal risk of acquiring HIV/AIDS to be low. **Conclusion:** MSM had a notable risk-taking behavior in relation to HIV transmission.

KEYWORDS

Hiv/aids, Knowledge, Perceptions, Msm, Sexual Risk Behaviour

Background:

Globally, HIV still disproportionately affects men who have sex with men (MSM). The HIV epidemic is changing to a significantly different and upward trend among gay, bisexual and other men who have sex with men.¹ In recent years, the rapidly spreading HIV epidemic among MSM has presented a new challenge worldwide.² The Indian National AIDS Control Organization (NACO) considers MSM to be a core risk group for HIV, with an estimated prevalence of 4-3%; more than 16 times higher than the national average of 0-3%.^{3,4}

MSM population often engage in high-risk sexual behaviours which not only increasing the risk of acquiring HIV and other sexually transmitted diseases for them, but also for their partners.⁵ The key to effectively preventing HIV among MSM is for them to modify high-risk behaviors. In order to promote changes in the behaviors mentioned above, every country needs evidence-based information to guide the design of appropriate prevention programs.⁶ Hence, it is important to understand the dynamics of the sexual behaviour of this key population.⁷ However, because many MSM in India do not openly acknowledge their sexual behavior, this has resulted in scanty knowledge about their sex behaviour. Without this knowledge it is difficult to plan effective MSM-related HIV prevention.⁸

In this context, the present study was designed to explore the HIV risk behaviours among MSM and also assess knowledge and perceptions related to HIV-AIDS among this population.

Objectives:

1. To estimate the sexual risk behaviour for HIV infection among men who have sex with men in West District of Tripura.
2. To assess the level of knowledge and perceptions related to HIV-AIDS among them.

Methodology:

This cross-sectional study was carried out from September 2022 to December 2022 among adults MSM residing in West District of Tripura. Men between the ages of 18 and 45 having sex with other men regardless of how they identified themselves (e.g., gay, bisexual, homosexual, or heterosexual) and have reported having anal sex, paid or unpaid, with another man in the past 12 months were included in this study. The study excluded participants who were unwilling to provide written informed consent, as well as those with severe mental disease

(such as untreated mania or psychosis) or any primary psychotic disorder, regardless of treatment status. With a reported prevalence of 27%⁹ for consistent condom usage (CCU) with a regular male partner among MSM, absolute precision (d) of 10% at a significance level of 95%, and a non-response rate of 10%, a sample size of 90 was determined using the formula $n = Z_{1-\alpha/2}^2 \times pq/d^2$.

Sampling Method:

The subjects were recruited using the snowball sampling technique. After consulting with nongovernmental organizations (NGOs) that support MSM in Tripura's West District, the first "seed" participant was determined. After being invited to take part in the study, each initial seed was requested to refer other people who met the same inclusion requirements. More information was subsequently supplied for each new referral, and these recruitment procedures were continued until the desired sample size was reached.

Study tool:

Data were collected through a predesigned, pretested, structured interview schedule consisting of 4 parts: socio-demographic profile, sexual risk behaviours for HIV infection, knowledge of HIV /AIDS, and perception of HIV /AIDS.

Procedure of Data Collection:

Prior to gathering final data, pre-testing was carried out by a field investigator under the supervision of a research officer. The objectives of the study were explained to the study subjects and data were collected through face-to-face interview in a local language by a trained field investigator after obtaining written informed consent. The research officer was received sufficient sensitization and appropriate training to oversee the data collection process overall, and the field investigator also received training to conduct interviews. This included instruction in appropriate conduct standards, community respect and empathy, confidentiality protection, and guaranteeing respondents' voluntary participation. Every interview lasted between thirty and forty-five minutes.

Data analysis:

Data analysis was performed in IBM SPSS version 25.0 and expressed as frequency and percentage.

Ethical consideration:

After getting approval from Institutional Ethics Committee of Agartala Govt. Medical College the study was conducted. Interview was conducted in privacy and kept confidential. Participants were told that their participation in the study was voluntary and they could withdraw from the study at any time without giving reasons. They were also told that if they don't feel comfortable answering any questions, they can choose not to answer them.

Operational definitions:

1. Men who have sex with men (MSM): Males, in the age group of 18 to 45 years who had anal sex with another male in the last one year.¹⁰

Types of MSM:¹¹

- (I) Kothi: are more effeminate men who more likely report receptive anal sex;
- (ii) Panthis: Panthis are masculine male sexual partners or any male who is masculine and take on a penetrative role during sex;
- (iii) Double decker: Double-deckers are those who penetrate as well as receive;

Risk behaviour for HIV infection:¹²

Sexual risk behaviour:

The following two variables were utilized to score sexual risk behaviour for HIV infection:

- a. Number of male sexual partners in the last 12 months
- b. Condom used during anal sex with male partners in the past 12 months;

The variable "number of male sexual partners in the last 12 months" was assigned the following scores: only one male sexual partner = 1, two to four male sexual partners = 2, more than four male sexual partners = 3

Similarly, scores were given for the variable of condom used during anal sex in the past 12 months: used condoms every time = 1, used condoms most of the times = 2, used condoms sometimes = 3, and never used condoms during anal sex = 4

For deciding low risk behaviour for HIV infection – Those participants scoring less than median were considered as having low sexual risk behaviour for HIV infection.

For deciding high risk behaviour for HIV infection - median score was taken as a cut of value. Those participants scoring equal to median and more than median were considered as having high sexual risk behaviour for HIV infection.

4. Adequate knowledge of HIV/AIDS and inadequate knowledge of HIV/AIDS:

There are 16 questions on knowledge of HIV/AIDS.

i) Those who have given correct answer were scored "one" (1) and those who gave wrong answer were given "zero" (0). The highest possible answer was 16.

ii) For deciding adequate knowledge – median score was taken as a cut of value. Those participants scoring more than median were considered as having adequate knowledge.

iii) For deciding inadequate knowledge- Those participants scoring less than and equal to median were considered as having inadequate knowledge.

Results: In this survey we have approached to total 101 subjects and five refused to participate. Finally, data were collected from 96 subjects and analysis was done. So, response rate was 95%.

Sociodemographic characteristics of the study participants

The maximum respondents were between aged 26 to 30 years with median age of the subject was 28 years. Majority of the respondents were urban residents (82.3%), unskilled workers (42.7%), and were belonged to Middle class (47.9%) according to modified B.G Prasad scale 2022. Very few (17%) respondents were currently married to women while most of them (81.3%) were never Married and reported themselves as predominantly Kothi (65.6%). More than three fourth MSM (78.1%) were reported currently living with their parents and with all family members and only few MSM (5.2%) were living with their male partner. (Table 1)

Risk behaviour and practices for HIV infection among subjects

In the present study, almost 93.7% MSM were revealed that the nature of their first sexual experience with male partner was due to attracted towards the male partner while 2.1% MSM opined that it was a forceful act. Most of the MSM (58.3%) had initiated their sexual activity between age of 16 to 20 years. Median age of first sexual experience among MSM was 16 years. Out of 96 MSM, only 7 (7.3%) MSM had one male sexual partner in the last 12 months while 38 (39.6%) MSM had two to four male sexual partners and most of them 51 (53.1%) had more than four male sexual partners. Although, few MSM 2 (2.1%) had never used condom during anal sex while 13 (13.5%) MSM revealed that they used condom every time during anal sex and refused by their partners was the main reason for not using condom every time opined by more than half of the respondents 55 (66.2%). Furthermore, 21 (21.9%) MSM reported that they had sexual intercourse with female partner in the last 12 months and among them 16 subjects (76.1%) used condom. In this survey, majority of MSM 54 (56.2%) had received money or gift in exchange for sex. (Table 2)

The present study observed that majority of the respondents (78.1%) had higher risk sexual behaviours for HIV infection while only 21.9% subjects had lower risk of sexual behaviour for HIV infection. (Figure 1)

Knowledge related to HIV-AIDS among subjects

Out of 96, almost 94 (97.9%) MSM in this present study revealed that they have heard about of HIV/ AIDS. Among them 88 (93.6%) MSM were knew that a person gets HIV/AIDS by having unprotected sex with an infected person, 79 (84.0%) MSM knew that a person gets HIV/AIDS by sharing infected needles and 82 (87.2%) MSM knew that a person gets HIV/AIDS by infected blood transfusion needles. A total of 94, 61 (64.9%) MSM were correctly reported that people can protect themselves from HIV by having one uninfected faithful sex partner while 77 (81.9%) MSM told that people can protect themselves from HIV/AIDS by using a condom correctly every time they have sex and 60 (63.8%) MSM opined that people protect themselves from HIV/AIDS by getting blood thoroughly checked/tested before transfusion. Among 94, 30 (31.9%) MSM had found to have misconception that a person gets HIV virus from mosquito bites and 23 (24.5%) MSM opined that a person gets HIV by sharing a meal with infected person. Nearly 76 (80.9%) MSM correctly answered that a pregnant woman infected with HIV/AIDS transmit the virus to her unborn child and more than half of the MSM (58.5%) opined that a woman infected with HIV/AIDS transmit the virus to her new born child through breastfeeding while 27 (28.7%) MSM have no idea about the fact. Almost 73 (77.7%) subjects informed about the places where one can get tested for HIV and 62 (66%) subjects knew about places where HIV infected persons can avail ART. Almost 73 (77.7%) subjects came to know about HIV/ AIDS were from NGO Workers.

It was informed by 34% MSM that HIV testing can be done at Government hospital, 23.4% MSM said that HIV testing can be done both Government hospital and NGO run clinics while 2.1% MSM did not know about the HIV testing places. In this present study, only 37.2% of the subjects could answered that HIV infected persons can avail ART from Government hospital, 10.6% answered from NGO run clinics and 1.1% had no idea about it.

After calculating the overall knowledge about HIV/AIDS, it was observed that more than half of the subjects (58.3%) were having inadequate knowledge. (Figure 2)

Perceptions regarding HIV-AIDS among subjects

In this present study, 43.8% MSM felt themselves as having low risk to being infected with HIV/AIDS. Almost 85.4% subjects already been tested for HIV and most of them (93.9%) were referred by NGO. After knowing HIV positive status of their friend, 84.4% MSM felt that they would like to continue interacting with him/her and 76.0% MSM opined that healthy looking person also can be infected with HIV while 79.2% MSM would like to access healthcare services from a provider/facility treats HIV positive person.

DISCUSSION:

The present survey was carried out to investigate the sexual risk behaviours for HIV infection among MSM and also to assess the level of knowledge and their perceptions related to HIV-AIDS. The findings showed that high sexual risk behaviour for HIV infection among respondents were very prevalent which is found similar in a study

conducted by Deuba K et al¹⁰ in Nepal. A study was done by D Kiran¹³ in central Karnataka, India also reported high sexual risk behaviour among MSM. A study conducted in China by Zhang L¹⁴ revealed that more than half of the participants were never or seldom used condom which was much higher than our study results and in Nepal study¹⁰ also reported very high. This variation might result from the study's operational definition of inconsistent condom use being different. According to the study by Panpet P¹⁵ most MSM had permanent sexual partners. However, the finding was not similar with Mishra AK¹⁶ study done in Mumbai and also found inconsistent with our study result. A study conducted by Dasman H¹⁷ in the Indonesian province of West Sumatera observed that the majority of MSM were multiple sex partners, and the majority of their sexual encounters were unprotected with low consistency condom use. These outcomes agreed with the conclusions of our findings. A study conducted in China by Lai J¹⁸ found that MSM tend to have sex without condoms because it reduces the sexual pleasure. Our research revealed that participants' partners' rejection was cited as a common reason why they didn't always use condoms during anal sex. The majority of the participants had heard about HIV/AIDS, and the NGO worker was a common source of information about the disease reported in the Hyderabad Nalla K¹⁹ study. The results that were reported matched our findings. The National Family Health Survey-5 (2019–2021)²⁰ reported that only one in four respondents had comprehensive knowledge of HIV. In contrary to this, nearly half of the MSM were revealed to have comprehensive knowledge about HIV⁹. This finding was in line with a study conducted in Brazil by Gomes RR²¹, and it also showed similarities to the findings of our investigation. In contrast, research conducted in the Northeast region of Brazil by Bay MB²² found that the participants had a very low level of correct understanding about HIV, whereas a different study by Pando MA²³ in Argentina showed that participants had a higher level of knowledge about HIV. This variance was noted as a result of the various scoring techniques used to determine the knowledge score. With regards to risk perception, most of the subjects thought they were highly susceptible to contracting HIV/AIDS¹⁹ which was in contrary to what we found in our study while one fourth of the respondents categorized themselves as low risk in a study done in Kuala Lumpur, Malaysia²⁴.

CONCLUSION:

The current study revealed that MSM had a high sexual risk behavior for HIV infection. Knowledge about route of transmission and preventive methods of HIV/AIDS were marginally higher among the study subjects whereas overall adequate knowledge about HIV/AIDS was relatively lower. The most respondents felt themselves as having at minimal risk of contracting HIV/AIDS in the present survey.

Recommendations:

It is necessary to conduct a larger study covering all districts of Tripura in order to have comprehensive information about the prevailing sexual practices among MSM for the purpose of designing any programme or intervention for the risk reduction of STDs/HIV in this subpopulation.

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Conflict of interest: There is no conflict of interest.

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Table 1: Sociodemographic characteristics of the study subjects (n=96)

Variables	Frequency	Percentage
Median age in years	28.0	
Age group		
18 -20 Years	15	15.6
21 -25 Years	20	20.8
26-30 Years	23	24.0
31-35 Years	17	17.7
36-40 Years	9	9.4
41-45 Years	12	12.5

Residence	Urban	79	82.3
	Rural	17	17.7
Community	General	32	33.3
	Scheduled caste	36	37.7
	Scheduled tribe	10	10.4
	OBC	13	13.5
	Minority	5	5.2
Religion	Hindu	90	93.8
	Muslim	5	5.2
	Christian	1	1.0
Literacy	Literate and till 5th std	16	16.7
	Till 12th std	69	71.9
	Till Graduation	10	10.4
	Post-Graduation	1	1.0
Socio-economic status	Class I (Upper class)	9	9.4
	Class II (Upper middle)	25	26.0
	Class III (Middle class)	46	47.9
	Class IV (Lower middle)	13	13.5
	Class V (Lower)	3	3.1
Marital status	Never married	78	81.3
	Currently married	17	17.7
	Divorced / Separated / Widowed	1	1.0
Currently living status	Living alone	7	7.3
	Living with spouse	3	3.1
	living with male partner	5	5.2
	living with friend / colleague	6	6.3
	living with family	75	78.1
Had children	Yes	16	16.7
	No	80	83.3
Sexual orientation	Predominantly Kothi	63	65.6
	Predominantly Panthi	8	8.3
	AC/DC or Double decker	3	3.1
	Bisexual	22	22.9

Table 2: Characteristics of sexual Risk behaviour for HIV infection among subjects (n=96)

Variables	Frequency	Percentage
Median age (years) of first anal sex with a male	16.0	
Nature of first sexual experience with male partner		
It was a forced act	2	2.1
Wanted to experiment	4	4.2
Was attracted towards the partner	90	93.7
Condom used during anal sex with male partner in last 12 months		
Every time	13	13.5
Most of the time	16	16.7
Sometimes	65	67.7
Never	2	2.1
Reasons for not using condom every time (n=83)		
Partner refused	55	66.2
Condom was not available	3	3.6
Trusted partners	25	30.1
Number of male sexual partners in the last 12 months		
One partner	7	7.3
Two to four partners	38	39.6
More than four partners	51	53.1
Sexual intercourse with any female partner in the last 12 months		
No	75	78.1
Yes	21	21.9
Condom used last time when had sexual intercourse with female partner (n=21)		

No	5	23.8
Yes	16	76.1
Received money or gift in exchange for sex in the last 12 months		
No	42	43.8
Yes	54	56.2

Figure 1: Sexual risk behaviour for HIV infection among study subjects (n=96)

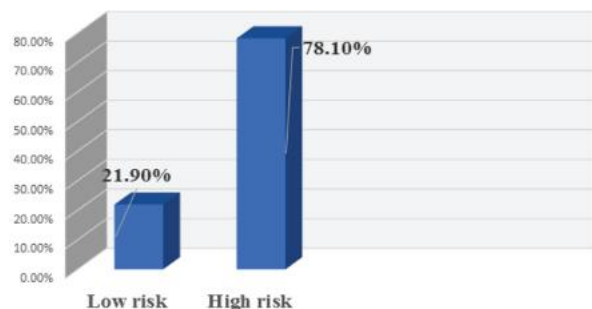
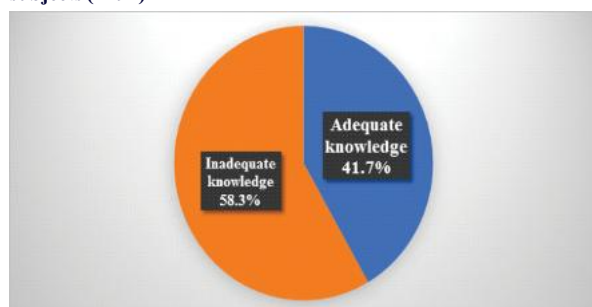


Figure 2: overall Knowledge about HIV /AIDS among study subjects (n=94)



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