Alcohol use and high risk sexual behaviour among Effeminate men in Imphal, Manipur, India 2007

By

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CERTIFICATION

This is to certify that this dissertation, entitled **'Alcohol use and high-risk sexual behaviour among effeminate men having sex with men in Imphal, Manipur, India 2007,** submitted by Dr. Keisam Purnamala Devi, in partial fulfillment of the requirements for the degree of Master of Applied Epidemiology, is the original work done by her and has not been submitted earlier, in part or whole, for any other (Publication or degree) purpose.

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Section 1: Dissertation

Alcohol use and high-risk sexual behaviour among effeminate men in Imphal, Manipur, India 2007

Abstract

Background

Alcohol use has been documented to influence sexual behaviour through multiple mechanisms. This study explored the extent of alcohol use and its association with sexual behaviour among a group of effeminate men in Imphal.

Methods

We conducted a questionnaire-based cross-sectional study among 234 effeminate men enlisted with a non-governmental organization in the year 2007.

Results

The median age of the participants was 30 yrs. In all, 82% ever used alcohol and 72% used it within the last six months. Participants aged more than 30 years (PR=1.2; 95% CI: 1.1-1.4), having income below Rs. 1500 (PR = 1.3; 95% CI: 1.1-1.5), not residing in own house (PR= 1.2; 95% CI: 1.1-1.4) and ever sexually abused (PR= 1.2; 95% CI: 1.1-1.4) were associated with a higher prevalence of current alcohol use. Ninety percent had multiple sexual partners and 94% had anal sex. Fifty-three percent did not use condom during the last sex and 60% consumed alcohol just before having sex. Those unemployed and doing unskilled labour (OR= 0.5, 95% CI: 0.3-0.9) and those consuming alcohol just before sex (OR= 0.5, 95% CI: 0.3-0.9) were less likely to use condoms contrary to those who had tested for HIV in the past (OR=3.9, 95% CI: 2.1-7.0).

Conclusion

There is a strong association between alcohol use and risky sexual behaviour such as unprotected sex among effeminate men in Imphal. HIV prevention programmes for MSM in Imphal need to focus on reduction of alcohol use coupled with reemphasis on safe sex.

Introduction

There are 39.5 million people living with HIV /AIDS worldwide.[1] At least 5-10% of these infections are estimated to occur through sex between men, though this figure varies considerably between countries and regions.[2] The HIV prevalence in India was estimated at 0.36% amounting to some 2.5 million people living with HIV in the year 2006.[3] India's epidemic seems to be largely driven and maintained through contact between high risk groups and bridge populations with further transmission to the general population.[4] Of the high risk groups there is limited data for the contribution of men who have sex with men (MSM) to the HIV/AIDS epidemic in the country, including their numbers, sexual networks and high risk behaviours [5-12]. Given the cultural and regional complexity of MSM identity and behaviour in India[13], limited reports suggest that MSM have high HIV and STD prevalence levels and are at substantial risk for acquiring and transmitting HIV.[8,9,11,12]

High vulnerability to HIV/AIDS among MSM is fuelled by high-risk sexual behaviours such as unprotected anal intercourse, transactional sex and multiple sex partners coupled with high STD prevalence, low perception of self-risk, and incorrect beliefs.[7,8,11,12,14] Studies also suggest that high-risk sexual behaviors among MSM are strongly associated with non-injection substance use, including alcohol.[15,16] Regular consumption of alcohol and also prior to sex was reported by a National Baseline HIV/AIDS Behavioral Surveillance Survey among MSM across the five metros (Bangalore, Chennai, Delhi, Kolkata and Mumbai) in India.[6] The relationship between alcohol use, sexual activity and HIV risk is complex and influenced by many factors including pharmacological property of the substance, behavioral disinhibition, social learning and social setting, personality factors and fear of performance.[15-17]

Manipur has the highest HIV prevalence (1.13%) in India among adults in the age group of 15-49 years.[18] The main route of transmission in the state has been mainly through injection drug use [19]. The sero-prevalence of HIV infection among injecting drug users was 20% in 2006. At the same time 12% MSM in the state were also estimated to be HIV positive.[20] However, the spread of HIV among MSM in Manipur has received little attention. One report suggests an increasing population of MSM along with indulgence in high-risk behaviour with the general population. In

Manipur effeminate men are the visible group among all MSM. They are accepted in the society due to their occupation as "beauticians" and "artists" in traditional drama forms while their male partners remain hidden.[21] The denial, stigma and discrimination in the society against this hidden population not only increase their vulnerability to HIV but also makes it difficult to reach out to them with HIV prevention programmes.[21]

We conducted this study among the effeminate MSM in Imphal to estimate the prevalence of alcohol use, describe their sexual behaviour and explore the factors associated with alcohol and condom use.

Methods

Social Awareness Services Organization (SASO) is a non government organization (NGO) providing targeted interventions for prevention of HIV/AIDS among MSM in Imphal. We conducted a cross-sectional study among the effeminate MSM in Imphal enlisted with SASO in the year 2007. The study population included 18-64 years old effeminate MSM willing to participate in the study. Effeminate men are defined as MSM acting as the receptive partner in a sexual relationship with other men.

We calculated the sample size for the study to be 212, assuming the highest possible prevalence of alcohol use among the Effeminate men to be 30% and 95% confidence interval (CI). Allowing for a non-response of 10%, we needed 233 participants for the study. We could not take a simple random sample of the study participants due to the absence of a sampling frame for this hidden and marginalized population.

The principal investigator selected and trained the staff members of SASO to interview the participants. The interviewers approached the participants at their work places, houses or gathering places and explained the purpose and procedure of the study in detail. The participants provided written informed consent. In order to maintain anonymity we did not collect any identifying information and coded the questionnaires with a unique identifier number.

For this study we adapted the questionnaire from the UN Division of Narcotic Drug Control for prevention of transmission of HIV among drug users in SAARC Countries.[23] We used structured questionnaires written and administered in Manipuri, the local language of the participants, to collect information regarding their socio-demographic characteristics; history of substance use, both injectable and non-injectable; sexual behaviour, and condom use during last sex.

Ever use of substance was defined as non-medical use over a lifetime and current use was limited to a six month period before the interview. We referred to "sex" as any form of penetrative sexual activity between two individuals of either gender including, oral, vaginal or anal sex and excluding encounters where only foreplay (hugging, kissing, and fondling) had taken place.

At the end of the interview we explained the benefits of condom use in preventing the transmission of HIV and STIs to the participants and distributed condoms to them. All study procedures were reviewed and approved by the ethics committee of National Institute of Epidemiology, Chennai.

We entered the data into MS Excel and analyzed using EpiInfo version 3.3.2. Variables were dichotomized for the analysis of factors associated with current alcohol use and condom use during last sex. Univariate analyses were conducted using prevalence/incidence ratio and 95% CI. Characteristics of participants found significant in the univariate analyses were adjusted for using multivariate logistic regression in order to estimate the independent effect of each on condom use.

Results

Out of a total of 612 men enlisted with SASO we were able to approach 250 cooperative participants for the interview. Of these 3 refused to participate and 13 did not complete the questionnaire, resulting in the final sample of 234 participants.

As summarized in Table 1, the median age of the participants was 30 years (range: 18-51 years), 177 (76%) were unmarried, and 230 (98%) literate, with 64 having a college degree. One hundred and two (44%) participants were either

unemployed or doing unskilled labour. In all 139 (59%) were earning less than or equal to Rs1500 per month and 60 (26%) were staying at residences other than their own house.

Table 2 shows that 173 (74%) participants had consumed alcohol during the last six months. Currently 20 (8.5%) were also using cannabis. Half of the ever users had first used any substance by the age of 20 yrs (range: 14-33 years).

Participants aged more than 30 years (PR=1.2; 95% CI: 1.1-1.4), having income below Rs. 1500 (PR = 1.3; 95% CI: 1.1-1.5) and not residing in own house (PR= 1.2; 95% CI: 1.1-1.4) were associated with a higher prevalence of current alcohol use. Similar association with current alcohol use was seen among those who were ever sexually abused (PR= 1.2; 95% CI: 1.1-1.4) (Table 3).

Sexual behaviour could be elicited from 231 participants only. Nearly all of them had engaged in sex (99%) in their life time. Half of them had their first sexual experience by 18 years of age (range 7-37 years). During the last twelve months 207 (90%) had multiple sexual partners, ranging from 2 to 15, and 218 (94%) had anal sex. In all 139 (60%) participants consumed alcohol just before having sex and 122 (53%) did not use condoms during last sex.

As per Table 4 condom use during last sex was less likely among the unemployed and those doing unskilled labor (adj. OR= 0.5, 95% CI: 0.3-0.9). Participants consuming alcohol just before sex were twice as likely to not use condom (adj. OR= 0.5, 95% CI: 0.3-0.9). Those who had tested for HIV were 4 times more likely to use condoms during last sex (adj. OR=3.9, 95% CI: 2.1-7.0).

Discussion

As probably, the first reported survey with sample of effeminate MSM in Imphal, it reveals the correlates of alcohol use and sexual behavior among this population. Our results indicate a high prevalence of current alcohol use, more so among the participants of older age group, with low income, not residing in own house and ever sexually abused. Nearly two-thirds of them consumed alcohol prior to

having sex. Most of the participants engaged in anal sex and had multiple sexual partners during the twelve months before the survey. Half of them did not use condom during last sex. Condom use was lower among the unemployed and unskilled workers and those consuming alcohol before sex.

Studies in USA[15] and other parts of India[6] have also reported common use of alcohol among MSM. Anecdotal evidence suggests that social drinking is a common practice among men in our study area, irrespective of their socio-economic status. The effeminate men being a stigmatized group of people may also use the disinhibiting and inebriating effect of alcohol to overcome their fear and anxiety about having sex and/or disease transmission.[25] There is also a possibility of use of alcohol in exchange for sex among this population. The association with older age could be reflective of accumulation of habit over time. We also found that 25% participants did not reside in their own house and that this residential instability was associated with high alcohol use. Similar association has been documented by others[26] albeit for drug use in general.

Alcohol consumption just before sex was highly associated with unprotected sex among the effeminate MSM in our study. However, some but not all studies suggest that alcohol use promotes high-risk sexual behaviour.[27-30] Although we were unable to directly determine the mechanisms through which alcohol use increases sexual risk, several possibilities warrant consideration. A key mechanism may be that alcohol is a central nervous depressant, and in moderate quantities impairs judgment. Alcohol can therefore increase risk for HIV transmission by diminishing personal control, increasing risk taking, diminishing perception of risk from unprotected sex, or by simply increasing sexual activity.[15,31] Alternately, alcohol consumption may be a marker of a personality type given to risk taking, deviant behavior or unconventionality.[31] Sensation seeking, as a personality construct, might be an important factor contributing to high-risk sexual behaviour in any population, more so among heavy users of alcohol.[23-33]

This study shows that the effeminate MSM are involved in multiple high risk sexual activities, in context of HIV/STI acquisition and transmission. Our observations are concurrent with studies among MSM from other regions of India.[7-9]

This strengthens the case for labeling the MSM, in general, as a "high-risk" group in relation to the HIV/AIDS epidemic. Condom use was found to be low in our study, more so among the unemployed and those with unskilled occupation. Occupation may be seen as a marker for education level as well as exposure to HIV/STIs prevention messages. These in turn probably determine personal risk taking behaviour and the knowledge and awareness of condom use in preventing HIV/STIs, which was also observed to be low (data not shown). Findings from an existing MSM intervention project in Imphal show that only 30% use condoms.[21] Although we did not ascertain condom use by partner type others have shown that disinclination for condom use is particularly common with regular partners in order to foster trust in their relationships.[21]

Our study results show that more than three fourths of the participants had been tested for HIV in the past. A significant proportion of them were found to use condoms during last sex. This could be an impact of the counseling services provided at the Voluntary Confidential Counseling and Testing Centers (VCCTC). Counseling at the VCCTC includes information on HIV disease and modes of prevention with emphasis on consistent condom use with sexual partners. SASO also provides the registered MSM with condoms free of cost.

This study has inherent biases and limitations. First, the effeminate men were recruited conveniently from among those registered with SASO. Our observations may therefore not be totally generalizable to the MSM population in Imphal. Second, the cross-sectional design of this study makes it impossible to infer temporal relationships of reported risk factors with alcohol use and sexual risk behaviour. Third, as the behavioral data were collected with interviewer administered questionnaires the participants may have under-reported their alcohol use and sexual behaviour. On the other hand social desirability may lead to over-reporting of the figures for condom use. Fourth, the information on condom use was collected only for the last sex act which may not reflect the overall pattern of condom use in this population.

Our study results suggest that alcohol use is very common among the effeminate MSM in Imphal, particularly among the vulnerable population. There is insufficient use of condoms with sex partners that exposes this group to higher risk for

STIs/HIV. Nevertheless, VCCTC seem to be effective in promoting safe sex. Alcohol use and ignorance to the threat posed by STIs/HIV are the key determinants of unprotected sex.

In a high HIV prevalence setting, such as in Imphal, Manipur, interventions are needed to focus on sexual risk coupled with use of alcohol during sex among MSM. Prevention programmes should be tailored for less educated, unemployed and low income MSM. We must investigate innovative ways to educate and inform this stigmatized population by involving peer groups as well as NGOs working among MSM in the area. This calls for building the technical and programmatic capacity of such NGOs towards health promotion of their beneficiaries. The NGOs can also mobilize the MSM to the VCCTCs that provide an excellent opportunity to inquire about alcohol use during sexual activity and promote reduction of alcohol use along with awareness of HIV-related sexual risk.

Table 1: Socio-demographic characteristics of participants (N =234), Imphal, Manipur, India 2007

Characteristics		Number	%
Age (years)	18-24	47	20
	25-34	116	49
	35-44	60	26
	45-51	11	4.7
Current marital status	Married	57	24
	Unmarried	177	76
Education	Illiterate	4	1.7
	Primary	64	27
	Secondary	102	44
	Tertiary	64	27
Occupation	Unemployed	21	9
	Unskilled laborer	81	34.6
	Skilled laborer	98	41.9
	NGO employee*	23	9.8
	Government employee	11	4.7
Income per month (Rs)	≤1500	139	59
	1501-3000	49	21
	3001-4500	17	7
	≥4501	29	12
Residence	Own house	174	74
	Others	60	26
Religion	Hindu	215	92
	Muslim	5	2.1
	Christian	10	4.2
	Others	4	1.7

* Includes Non Government Organization employees and Private Schools teacher

Table 2: Type of substance use by type of use among participants, Imphal, Manipur, India 2007

Substance	Type of use	Total (N=234)	
		Number	%
Alcohol	Ever user*	193	82
	Current user**	173	74
Cannabis	Ever user	73	31
	Current user	20	8.5
Tab Spasmo proxivon	Ever user	3	1.3
	Current user	1	0.4

* Ever user is a person who ever consumed a substance in his life time
** Current user is a person who consume a substance within last six months
# Type of substance used is not mutually exclusive

Table 3: Prevalence of current alcohol use according to selected characteristics among participants, Imphal, Manipur, India, 2007

Characteristics	Prevalence of current alcohol use						Prevalence ratio	95% CI
	Among exposed			Among unexposed				
	N	Total	%	N	Total	%		
Age above 30 years	94	115	82	79	119	66	1.2	1.1-1.4
Married	45	57	79	128	177	72	1.1	0.9-1.3
Education ≤ Secondary	124	170	73	49	64	77	0.9	0.8-1.1
Unemployed and unskilled occupation	73	102	72	100	132	76	0.9	0.8-1.1
Income ≤ Rs. 1500	113	139	81	60	95	62	1.3	1.1-1.5
Not residing in own house	52	66	87	121	174	70	1.2	1.1-1.4
Hindu religion	157	215	73	16	19	84	0.9	0.7-1.1
Sex partner >1	157	207	76	14	24	58	1.3	0.9-1.8
Sexually abused	89	108	82	82	123	67	1.2	1.1-1.4
H/O discrimination	146	192	76	27	42	64	1.2	0.9-1.5

Table 4: Incidence of using condom during last sex according to selected characteristics among participants, Imphal, Manipur, 2007

Characteristics	Incidence of condom use (N=231)						Univariate		Multivariate	
	Among exposed			Among unexposed						
	N	Total	%	N	Total	%	Incidence ratio	95% CI	Adjusted OR	95% CI
Age above 30 years	46	115	40	63	116	54	0.7	0.6-0.9	0.6	0.3-1.3
Married	24	57	42.1	85	174	49	0.9	0.6-1.2	1.2	0.6-2.5
Education up to Secondary	80	167	47.9	29	64	45	1.1	0.8-1.4	1.1	0.5-2.2
Unemployed and unskilled occupation	37	102	36.3	72	129	56	0.6	0.5-0.9	0.5	0.3-0.9
Income ≤ 1500	65	136	47.8	44	95	46	1.0	0.8-1.4	0.9	0.5-1.6
Not residing at own house	28	60	46.7	81	171	47	1.0	0.7-1.3	0.8	0.4-1.5
Hindu religion	102	212	48.1	7	19	37	1.3	0.7-2.4	1.8	0.6-5.4
Alcohol consumption just before sex	57	139	41.0	52	92	57	0.7	0.6-0.9	0.5	0.3-0.9
Had anal sex	103	218	47.2	6	13	46	1.0	0.6-1.9	0.4	0.1-1.5
No. of partner >1	98	207	47.3	11	24	46	1.0	0.7-1.6	1.7	0.7-4.4
Tested for HIV	65	100	65	44	131	34	1.9	1.5-2.6	3.9	2.1-7.0

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QUESTIONNAIRE

Alcohol use and high-risk sexual behaviour among effeminate men in Imphal, Manipur, India 2007

ID. No Date:

A. Socio-demographic information

1. How old are you? ☐

2. Marital status ☐

Tell me whether you are

A.	Married
B.	Never married
C.	Not married but living together
D.	Was married but now divorced (legally)
E.	Was married but now separated
F.	Widower
G.	

3. Education ☐

Tell me about your education

1.	Illiterate (cannot read or write)
2.	Primary incomplete (Up to 5th standard)
3.	Primary completed
4.	Secondary incomplete (Up to 10th standard)
5.	Secondary completed
6.	Higher Secondary incomplete (12th standard)
7.	Higher Secondary completed
8.	Graduation incomplete
9.	Graduation completed
10.	Post Graduation incomplete
11.	Post Graduation completed
12.	Did not respond

4. Employment status – Are you currently employed (doing any work)? ☐

1.	Yes
2.	No
3.	Was employed before, not now

5. Occupation: What kind of work do you do?

1.	Government employee
2.	Student
3.	Small scale business
4.	Farmer
5.	Embroidery/Fashion designing
6.	Jewelry/Crafts
7.	Private teacher
8.	Beautician
9.	Artist
10.	NGO
11	Others
12.	
13.	

6. How much do you earn in a month?

(Enter 9 if not applicable such as the person is unemployed)

7. Residence: Where are you live?

1.	Rented Mud house
2.	Rented Pucca house
3.	Own Mud house
4.	Rented Pucca house
5.	Own Pucca House
6	Wooden House
7	Relatives House
8	RCC House
9	Did not respond

8. Religion

1. Hinduism
2. Muslim
3. Christiananity
5. Others

B. Drug use related history

9. Would you please tell me about your drug use pattern as I go on asking you a few questions?

1= Yes	2= No

If "Yes" proceed to Question 9, otherwise skip to Q 31

10. Drug use

10a) Have you ever consumed alcohol? (Yes=1, No=2) ☐

10b) If "yes" to question 10a at what age did you first consume alcohol? Yyr ☐

10c) If "yes" to question 10a did you consume alcohol within the last six months? (Yes=1, No=2) ☐

10d) Have you ever smoked cannabis? (Yes=1, No=2) ☐

10e) If "yes" to question 10d at what age did you first smoke cannabis? yr ☐

10f) If "yes" to question 10d did you smoke cannabis within the last six months? (Yes=1, No=2) ☐

10g) Have you ever taken Tab. Spasmo-proxivon (SP)? (Yes=1, No=2) ☐

10h) If "yes" to question 10g at what age did you first take Tab. SP? yr ☐

10i) If "yes" to question 10g did you take Tab. SP within the last six months? (Yes=1, No=2) ☐

10j) Have you ever smoked heroin? (Yes=1, No=2) ☐

10k) If "yes" to question 10j at what age did you first smoke heroin? ☐ yr

10l) If "yes" to question 10j did you smoke heroin within the last six months? (Yes=1, No=2) ☐

10m). Have you ever injected heroin? (Yes=1, No=2) ☐

10n). If "yes" to question 10m at what age did you first inject heroin? yr ☐

10o) If "yes" to question 10m did you inject heroin within the last six months? (Yes=1, No=2) ☐

10p) Have you ever injected Dextropropoxyphene (Proxyvon or SP)? (Yes=1, No=2) ☐

10q) If "yes" to question 10p at what age did you first inject Dextropropoxyphene? yr

10r) If "yes" to question 10p did you inject Dextropropoxyphene within the last six months? (Yes=1, No=2)

10s) Have you ever injected Buprenorphine (tidigesic)? (Yes=1, No=2)

10t) If "yes" to question 10s at what age did you first inject Buprenorphine (Tidigesic)? yr

10u) If "yes" to question 10s did you inject Buprenorphine (Tidigesic) within the last six months?
(Yes=1, No=2)

11. How are you doing drugs during the past 6 months?

1.	Alone
2.	In group
3.	Sometimes in group and sometimes alone

12. How many people do you generally use drugs with?

	0 (Usually takes drugs alone)
	Between 1 to 3
	Between 1 to 5
	Between 4 to 5
	More than 5

13. Do you change groups in which you use drugs?

1= Yes	**2= No**	**3 = Not applicable if uses alone**

14. How many times do you do drugs in a day?

15. Have you ever-injected drug?

1= Yes	**2= No**

16. If "yes" to question 16, did you inject drug within the last 7 days

1= Yes	**2= No**

17. If "yes" to question 17, how many times did you inject drug in a day ☐

18. If "yes" to question 16 did you inject cocktail of drugs? ☐

1= Yes	2= No

19. How much money do you spend on drugs in a day? Rs ☐

Questions only for IDUs - If the respondent is not an injector skip to question 31

20. Were you using drugs through non-injection route before you switched to injecting drugs? ☐

1=Yes	2=No

21. If yes, what were the reasons? ☐ ☐ ☐ ☐ (Multiple answers possible)

1.	My friends forced me into it
2.	I liked it better than non injection route
3.	Non-injection drugs were not available
4.	I could not bear the cost anymore of drug used by non injection roots
5.	I came to know about injecting from physicians in addiction treatment centers
6.	For self detox
7.	Other (specify) .....
8.	Not applicable

22. During last injecting episode did you lend your syringe and needle to others? ☐

1=Yes	2=No

23. Did you borrow others' injection equipment while injecting drugs the last time you injected drugs? ☐

1=Yes	2=No

24. The last time you had injected drugs with others, did you clean the needle/syringe before using? ☐

1= Yes	2= No	3= Not Applicable

(Not applicable if last injecting was done alone.)

25. How did you clean the needle/syringe? ☐

1	Bleach
2	Plain water
3	Hot water
4	Urine
5	Other (specify)_____
6	Not applicable

26. Did you share cooker, cotton, ampoules, water for cleaning or any other injecting paraphernalia during last injecting episode? ☐

27. Have you had any abscesses in the past 6 months? ☐

1= Yes	2= No

28. Have you had any abscesses in the past one month? ☐

1= Yes	2= No

The abscess refers to abscess occurring at injection site on the body only

29. Have you ever stopped taking injections and shifted to some other mode of taking drugs? ☐

1= Yes	2= No

30. If yes what were the reasons (Tick more than one if applicable) ☐

1.	Injections were costlier
2.	Injections were not easily available
3.	I became aware of hazards of injection use
4.	I no longer can find veins on my body for injecting
5.	I no longer enjoy taking injections / I enjoy some other substance more
6.	I liked heroin chasing / smoking better than injection
7.	Heroin smoking does not do harm to the body that injection does
8.	I got scared because I overdosed with injection
9.	I got many abscesses
10.	Other (specify)

C. Sexual history

Now I am going to ask you a few questions on sexual practices. Do not feel shy. I assure you once again that everything you say will remain confidential. True answers will help us to understand the health and social consequences of drug use in this locality.

31. Have you ever had sex?

1= Yes	2= No

If the response to question 32 is "no", jump to question number 46

32. How old were you when you first had sex Yr

"First sex" here refers to any form of PENETRATIVE sexual activity between two individuals of either sex including, oral, vaginal or anal sex. It DOES NOT include encounters where only foreplay has taken place (hugging, kissing, fondling etc.)

33. How many different sexual partners you have had sex with within the past twelve months?

34. Did you use condom when you had sex last with a casual, non – commercial, non – regular partner ?

1= Yes	2= No	9= Don't remember

35. Did you use condom when you had last sex with a commercial sex partner?

1= Yes	2= No	9= Don't remember

36. Did you use condom when you had sex lat with your regular partner?

1= Yes	2= No	9= Don't remember

37. Have you ever had anal sex?

1= Yes	2= No

38. If "yes" to Question 38, was it with a male partner?

1= Yes	2= No

39. If "yes", to Question 38, was it with a female partner (only for male respondent)?

1= Yes	2= No

40. Did you consume drug (including alcohol) just before having sex on last occasion when you had sex with Casual, Non – commercial, non – regular partner?

1= Yes	2= No	9= not applicable

41. Did you consume drug (including alcohol) just before having sex on last occasion when you had sex with Commercial sex partner?

1= Yes	2= No	9= not applicable

42. Did you consume drug (including alcohol) just before having sex on last occasion when you had sex with your regular partner?

1= Yes	2= No	9= not applicable

43. Have you ever been abused sexually?
(1= Yes, 2= No)

44. If yes to question 43, was there any sexual abuse within the last one month?
(1= Yes, 2= No)

45. **If Yes to question 43, was there any sexual abuse within the last twelve months?**
(1= Yes, 2= No)

D. Illness history

46. Did you have discharge from genitalia in the past 12 months?

1= Yes	2= No

47. Did you have an ulcer on/around your genitalia in the past 12 months?

1= Yes	2= No

48. Did you have pain/burning sensation during urination in the past 12 months?

1= Yes	2= No

49. Did you seek any treatment for any of the above symptoms within the last twelve months?

1= Yes	2= No	3= Not Applicable if "no" to questions 46, 47 & 48

50. If "yes" to question 47, wherefrom did you receive treatment?

1.	Took medicines on my own after buying it from pharmacy
2.	From an allopathic doctor
3.	From a homeopathic doctor
4.	From a traditional healer
5.	Took medicines as advised by family members
6.	Took medicines as advised by friends
7.	Took medicines on my own or as advised by friend and thereafter consulted an allopathic doctor as my illness was not cured
8.	Took medicines from a doctor from a system other than allopathy and thereafter took allopathic medicines as my illness was not cured
9.	Others (please describe)

E. Knowledge and attitudes in relation to HIV/AIDS

51. Have you ever heard of HIV/AIDS? ☐

1= Yes	2= No

52. Can HIV/AIDS be transmitted by contaminated syringes/needles? ☐

1= Yes	2= No	3= Don't Know

53. Can HIV/AIDS be transmitted by blood transfusion from an infected person? ☐

1= Yes	2= No	3= Don't Know

54. Can a HIV infected pregnant mother transmit HIV/AIDS to her unborn child? ☐

1= Yes	2= No	3= Don't Know

55. Can HIV/AIDS be transmitted through breast-feeding by an HIV infected mother? ☐

1= Yes	2= No	3= Don't Know

56. **Can you recognize whether your partner is HIV positive or not, just by looking at him / her ?** ☐

1= Yes	2= No	3= Don't Know

57. **Can people protect themselves from HIV by using condom while having sex?** ☐

1= Yes	2= No	3= Don't Know

58. Do you think you have a risk of getting infected with HIV?

1= Yes	2= No	3= Don't Know

59. Have you ever been tested for HIV?

1= Yes	2= No

60. If "no" to question 57, would you like to be tested?

1= Yes	2= No	3= Not Sure

If the answer to question 60 is "yes", continue with the interview and at the end, share the name, contact details etc. of the nearest voluntary HIV testing facility.

61. Would you like to share results of your HIV test with your regular sex partner if the test result comes out to be positive?

1= Yes	2= No	3= Not Sure

62. Would you like to share results of your HIV test with your regular sex partner if tested negative?

1= Yes	2= No	3= Not Sure

63. Have you ever been approached by someone to give you information on HIV /AIDS?

1= Yes	2= No

The question specifically refers to information about HIV/AIDS provided through a personal interaction in one-to-one or group settings. Information accessed through mass media (print or electronic) is not included here.

64. If "yes" to question 63, when was that?

1.	Within the last 1 month
2.	More than six months ago
3.	Long time ago
4.	Not applicable (as nobody approached with information)

65. Have you ever taken treatment for addiction?

1= Yes	2= No

66. If "no" to question 65, what are the reason(s)?

1.	I don't believe I require any treatment
2.	I don't have any treatment facility in my nearby locality
3.	I am unable to pay for it
4.	I don't think drug treatment facilities meet my needs
5.	Other (specify)

F. Discrimination and harassment history

67. Had you ever been discriminated?
(1= Yes, 2= N0)

68. If yes to question 67, please tell who discriminated you?
(1= Parents, 2= Family members, 3=Relatives, 4= Society, 5= Health Care Providers)

69. Had you ever been harassed?

70. **If yes to question 69, please tell who harassed you?**
(1= Police, 2= Youths, 3= People)

71. If yes to question 69, had you been harassed within the last one month?
(1= Yes, 2= No)

72. If yes to question 69, had you been harassed within the last twelve months?
(1= Yes, 2= No)

Instrument 3: Consent form for participating in the Questionnaire session

ID No. Date

Greetings

I am doing MAE-FETP in NIE, Chennai , now attached to CMO, Imphal. I am doing a research work with the local health officials to find out what is the prevalence of alcohol use and sexual risk behaviour among effeminate men having sex with of Imphal. We will be working on this research work for six months. For this we will ask questions on substance use and risk behaviors. This is important for recommending preventive measures of alcohol use and risk behaviours which will help HIV prevention programme..

I would like your help on this research work. I selected you by chance in the population of Nupi sabi. If that is OK with you, I would like to sit down with you and ask you some questions. There will be a few questions that we will be asking you on a one to one basis. It may take 30-45 minutes. Once this is over, we will be done and not bother you again. There will be no special benefit for you to take part in this. There will be no risk to you. All the elements of the discussion that we will have together will be kept between you and me. I will not write your name on the paper and will use a code instead. If you do not like any of the questions, feel free not to answer. If you are tired with the questions, you can also feel free to stop the whole thing at any time. It must be your decision to take part in this questionnaire session. You can refuse to take part without giving any reason or without loosing any sort of benefit you receive. That will not affect your right for Targeted Intervention benefits. When the research work is over, we will be able to discuss the results with the district health authorities, with the State and the central government. This will help understand this drug abuse problem. If you wish to know more about this research work, I will be happy to answer any question you may have. You may contact the principal investigator:

Name of Principal investigator: Dr. K. Purnamala Devi

Mobile Number: 9436082261 ----------

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research work and understand that I have the right to withdraw from the research work at any time in any way not affecting my further benefit from the SASO-MSM.

----------Signature Date----------

----------Witness

Consent form for participating in the questionnaire session (Manipuri)

ID No. Date

Eihak houjik NIE, Chennai da MAE-FETP tamli. Fild posting gidamak CMO Imphal gi makhada leiri. Eina Imphalgi Nupi sabisingna drug lanna sijinnabagi maramda amasung drug abuse ga risk behavior ga mari leinaba thijinnaba research work ama touri. Research work asi tha mari chathajagani Masigidamak drug use ga risk behavior ga gi maramda wahang hangjagani. Masina HIV/ AIDS thingnaba pambeising loukhatpada mateng woigani. Eina reseach work asida adomgi mateng pammi. Eina adombu by chance ta Nupi sabisingi maraktagi khallubani. Masida akaiba leitrabadi adomga phamminnaraga wahang khara hanjage. Minit 30 muk changba yai. Amukpu loikhrabadi adombu amuk hanna yetlaroi. Wari sanabasida adomda kannaba karisu leiroi. Masina adomda akaibasu karimata leiroi. Wahang paokhumsida khanna neinariba khudingmak kanadasu haidoklloi. Eina nahakki ming iroi, madugi mahutta code number oina igani. Karigumba nahakna wahangsing adu pamdrabadi paokhum pidaba yagani. Karigumba nahakana choktharaklabasu hekta tokthokpa yagani. Karigumba maram amata pidana tokpada nahakki amangba karisu leiroi. Maduna nahakna nangi phangpham thokpa phangbada akaiba karisu leiroi.
Karigumba nahakna research work asigi maramda khangningba hangbada eihak haraona paokhum pijagani. Nahakna makhada piriba principal investigator asida wari saba yagani.

Dr. K. Purnamala Devi
Mobile No. 9436082261

Eina piriba information asi pare nattraga eingonda paduna khanghalle. Eingonda wahang hangnabagi khudong chabasu phangle. Paokhumda apenba poktuna eina questionnaire session asi yaonabagi isagi ayaba pijari. Eina session asi tokpada eigi phangpham thokpa ammata mangloi haibasu khangle.

Signature ---------- Date----------

Witness----------

Section 2: Review of Literature

Global HIV and its prevalence among MSM

There are 39.5 million people living with HIV /AIDS worldwide.[1] At least 5-10% of these infections are estimated to occur through sex between men, though this figure varies considerably between countries and regions.[2] The HIV prevalence in India was estimated at 0.36% amounting to some 2.5 million people living with HIV in the year 2006.[3] India's epidemic seems to be largely driven and maintained through contact between high risk groups and bridge populations with further transmission to the general population.[4] Of the high risk groups there is limited data for the contribution of men who have sex with men (MSM) to the HIV/AIDS epidemic in the country, including their numbers, sexual networks and high risk behaviours [5-12]. Given the cultural and regional complexity of MSM identity and behaviour in India[13], limited reports suggest that MSM have high HIV and STD prevalence levels and are at substantial risk for acquiring and transmitting HIV.[8,9,11,12]

Substance use, sexual behaviour and HIV

The general relation between non-injection substance use and human immunodeficiency virus (HIV) risk has been reviewed.[14] Many studies have found an association between sexual risk behavior and substance use, including amphetamines, poppers, alcohol, cocaine, and ectasy.[15,16] Moreover higher levels of substance use, including amphetamines and poppers have been associated with increased risk of HIV infection.[17]

Substance use has also been shown to be associated with increased risk for HIV transmission by HIV-positive people to uninfected partners through sexual contact. The largest risk groups for infection, men who have sex with men (MSM) and injecting drug users (IDUs), have high rates of substance use. In a study by Beckett et al substance use and current dependence were associated with being sexually active among MSM but not IDUs; marijuana, alcohol and hard drug use were most strongly associated with being sexually active among MSM. Whereas substance use predicted high sex, there were few differences among exposure groups in these associations.[18]

The relationship between substance use and sexual activity is complex and influenced by many factors including pharmacological property of the substance, behavioral disinhibition, social learning and social setting, personality factors and fear of performance. The association between alcohol consumption and HIV infection has been documented. General associations between substance use and risk may be due to simple contextual effects, such as the effects of age and relationship status on both substance use and risk.[19] Personality disposition may also motivate people towards both substance use and risky behaviors.[20] High-risk sensation seeking as a personality variable was significantly associated with sexual risk taking behaviour among heavy alcohol users at the National Institute of Mental Health and Neurosciences, Bangalore, India.[21] Substance use per se may enhance risk, independent of a person's stable characteristics, or interact with personal characteristics such that risk is increased. Alcohol use has been examined most systematically in this context, with results generally indicating that global patterns of use are better predictors of sexual risk than are episode- specific measures.[22,23,24] In contrast, some data indicate that episode specific use of certain substances, including poppers, alcohol and cocaine relates to sexual risk behavior.[25] However these analyses did not adjust for participants' background tendencies to use substances, potentially confounding the relation between episode-specific substance use and sex. Alcohol is a central nervous depressant, and in moderate quantities impairs judgment. Alcohol can therefore increase risk for HIV transmission by diminishing personal control, increasing risk-taking, diminishing perception of risk from unprotected sex, or by simply increasing sexual activity. Alternatively, alcohol consumption may be a marker of a personality type given to risk taking, deviant behaviour or unconventionality.[26,27] Use of alcohol by groups at high risk for HIV infection such as commercial sex workers, truckers and migrant workers is common. Most of the targeted interventions for sex workers, men having sex with men, injecting drug users seem to have concentrated on specifics rather than overall social development. Therefore, though a significant proportion of the high-risk groups seem to be using condoms, many of them have alcohol dependence problems and in some cases they are dependent on other substances.[28]

Sexual behaviour and substance use among MSM

Sexual risk factors account for most HIV infections in MSM. These factors include unprotected sex and sexually transmitted diseases (STD). Having anal sex without a condom continues to be a significant threat to the health of MSM.[29]. Unprotected anal sex (barebacking) with casual partners is an increasing concern. Not

all the reasons for an apparent increase in unprotected anal intercourse are known, but research points to the following factors: optimism about improved HIV treatment, substance use, complex sexual decision making, seeking sex partners on the internet, and failure to practice safer sex.[30]

Hidaka Y: High level substance use have been reported among MSM population in the USA, Australia, and substance use is increasing among MSM in Asian countries such as Nepal, and Philippines.[31,32,33] According to a study by Stall et al both recreational drug (52%) and alcohol use (85%) were highly prevalent among urban MSM. Current levels of multiple drug use (18%), three or more alcohol-related problems (12%), frequent drug use (19%) and heavy-frequent alcohol use (8%) were not uncommon. The associations of heavy and/or problematic substance use are complex, with independent multivariate levels of demographics, adverse early life circumstances, current mental health status, social and sexual practices and connection to gay male culture.[34] In an internet based research conducted in Japan in 2003 34.5% MSM reported never using a substance, 45% reported ever using one type of substance (life time reported single substance users) and 19.65 had used more than one type of substance (lifetime reported multiple substance users) in their lifetimes. In multivariate analysis unprotected anal intercourse, having had 6 or more sexual partners, visiting a sex club/gay venue in the previous 6 months, a lower education level and being 30-39 years of age were associated with both life time single and lifetime multiple substance use. Lifetime reported multiple substance use was also correlated with having a casual sex partner, having symptoms of depression, being diagnosed as HIV positive, and a greater HIV/AIDS related knowledge.[35]

Studies suggest that that substance use is strongly associated with high-risk sexual behaviors.[36] Substance use can serve as a trigger or an excuse for unprotected sex. Some MSM have trouble having sex without getting high first; others prefer having sex while high, believing recreational drugs increase their libido. For some MSM, drug use provides a sense of community and bonding at gay clubs and circuit parties. A survey of MSM who attend circuit parties found that serodiscordant unprotected anal sex was more likely to occur among men who used amphetamines (speed), Viagra and amyl nitrites (poppers).[37] The EXPLORE study among 4,295 human immunodeficiency virus-negative men who have sex with men in US reported

that heavy alcohol use and use of poppers, amphetamines or sniffed cocaine in general, as well as specifically just before or during sex were independently associated with increased risk of having unprotected anal sex with an HIV- positive or unknown-sero status partner.[38]

HIV/AIDS and MSM in India

In India, MSM may be at sexual risk for HIV transmission themselves and because of strong societal pressure to marry, may also be a bridge population in terms of potentially transmitting the virus to their wives. Despite this, there are very few published data on issues related to HIV prevention among MSM in India, which may in part be because of societal stigma. Sexual behavior with other men is not necessarily considered part of one's identity, and it is not typical to discuss same–sex sexual behavior with others (Venkatesan & Sekar, 2001). Accordingly, although MSM activity may be common, discussion of same–sex sexual behavior is culturally taboo, and there is realistic fear of stigmatization. With MSM in India being a hidden population, it is difficult to identify them and therefore also difficult to lay the groundwork for HIV prevention efforts. Furthermore, any study conducted in a general population setting that assesses sexual behavior of men with other men may be subject to underreporting of MSM activity by participants if they are concerned about stigma.[39]

The contribution of MSM to the HIV/AIDS epidemic in India was officially set at 1 percent in 2001.[40] But these estimates may seriously underestimate the significance of MSM behaviors to the epidemic in India, especially since global estimates suggest that 5 percent to 10 percent of HIV prevalence is attributable to sexual transmission between men.[41] Truck drivers are a group known to have higher levels of homosexual behaviour than the general public.[42] Therefore, the high rates of HIV infection among truck drivers may be an indicator of the importance of homosexual transmission in the India epidemic because homosexual behaviour also takes place outside of this particular group.[43]

According to a study in STI clinics in Pune by Gupta et al compared with non-MSM, MSM were more likely to initiate sexual activity at age 16 years, to have 10 lifetime partners, to have sex with a hijra, and to use condoms regularly, but

they did not differ significantly in HIV prevalence and had a lower prevalence of GC, GUD, and syphilis. Independent factors associated with HIV among MSM were employment (adjusted odds ratio [AOR] = 3.08; P = 0.02), history of GUD (AOR = 1.86; P = 0.003), and syphilis (AOR = 2.09; P = 0.05).[44]

In a pilot study carried out in two STI clinics in Mumbai, about 17% of the MSM and 68% of the transgenders were HIV infected, the proportion increased with age in MSM. They had risky sexual behaviors but low risk perception.[45]

HIV prevalence was significantly higher among men who have sex with men in Chennai than among men reporting sex with women. The study also revealed that the majority of men reporting sex with men were married, and that HIV- positive men who reported having sex with men were also likely to report multiple risk factors for HIV, including drug use, multiple sex partners and exchanging sex for money.[46]

Alcohol Intake and Drug Use by MSM in India

In a National Baseline HIV/AIDS Behavioral Surveillance Survey (BSS) among MSM, cumulating across the five metros, (Bangalore, Chennai, Delhi, Kolkata and Mumbai) about two-thirds (67%) of the respondents reported ever having consumed alcohol. Nearly 16% said they were habituated to drinking every day while 35% drank at least once a week. 14.8% admitted that they regularly took alcoholic drinks prior to sex.

Intoxicating drug use was reported by nearly 12.5% of the total respondents surveyed in the five locations. Of them, about three-fourths (75.7%) reported to have tried Ganja, 41.6% mentioned Bhang, 24.3% tried Charas, and 8% had tried Affim while consumption of brown sugar and heroin was reported by 4% each. A significant proportion (12%) had also reported injecting addictive drugs without a medical prescription within the last 12 months prior to the survey. A higher proportion of respondents in Chennai (22%) and Bangalore (36%) reported injecting intoxicating drugs.[47]

Residential status as a risk Factor for drug use and HIV risk among MSM

Kipke MD, Weiss G, Wong CF quoted in their study that "For adolescents in general late adolescence and early adulthood is developmentally a period during which young people experiment with behaviours. It is a time when young people begin to explore new roles and relationships; establish more intimate attachments and sexual relationships with both male and female peers; and begin to define their sexual identity, both privately and publicly. For many young MSM, however adolescence is a time of rejection from family and friends, stigmatization, and social isolation. While connectedness with family has repeatedly found to be highly to be highly protective against drug use and other risky behaviours among young people, young MSM often find themselves feeling very disconnected and isolated from their families because of their sexual identity. Moreover, the struggle to develop and integrate a positive adult identity, a primary developmental task for all adolescents, become an even greater challenge for young MSM given the disapproval, discrimination, and homophobia many of them experience in every arena of their lives.

Although limited in nature, there is some evidence to suggest that young MSM are also at increased risk for running away from home and/or being forced from their home because of the conflict that they experience with their parents regarding their sexuality and residential instability put these young people at even greater risk for HIV infection and other negative health outcomes, such as illicit drug use and STIs."[48]

HIV epidemic and MSM in Manipur

Manipur has the highest HIV prevalence (1.13%) in India among adults in the age group of 15-49 years.[49] The main route of transmission in the state has been mainly through injection drug use.[50]. The sero-prevalence of HIV infection among injecting drug users was 20% in 2006. At the same time 12% MSM in the state were also estimated to be HIV positive.[51] However, the spread of HIV among MSM in Manipur has received little attention. One report suggests an increasing population of MSM along with indulgence in high-risk behaviour with the general population. In

Manipur effeminate men are the visible group among all MSM. They are accepted in the society due to their occupation as "beauticians" and "artists" in traditional drama forms while their male partners remain hidden.[52] The denial, stigma and discrimination in the society against this hidden population not only increase their vulnerability to HIV but also makes it difficult to reach out to them with HIV prevention programmes.

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