

## Exploring “Wine Shops” as a Venue for HIV Prevention Interventions in Urban India

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**ABSTRACT** Addressing male heterosexual risk is a high priority for HIV prevention efforts in India. Particularly in urban India, which draws men for employment opportunities, these efforts are gaining momentum with a focus on understanding possible risk facilitators such as alcohol use. However, little is known about venues where such efforts might be targeted. In this paper, we explore community-based alcohol outlets or “wine shops” in Chennai, India, as potential venues. We conducted ethnographic research with wine shop staff and clients to understand alcohol use and sexual behaviors. We then surveyed 118 wine shop patrons to quantify these risk behaviors and plan an appropriate intervention. Our results show that wine shops are a venue where social and sexual networks converge. Reports and observations of regular and heavy drinking were frequent. Over 50% of patrons surveyed reported three or more sexual partners in the past 3 months, and 71% of all patrons reported a history of exchanging sex for money. Condom use history was low overall but, in the adjusted analyses, was significantly higher (OR=20.1) among those who reported that their most recent partner was a sex worker and lower (OR=0.28) among those who reported they drank to feel disinhibited. The data suggest that wine shops may be an appropriate location to target men for HIV prevention interventions. We discuss how these findings helped design such an intervention in Chennai.

**KEYWORDS** HIV prevention, Alcohol users, Urban India, Wine shops

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### INTRODUCTION

There are over five million adults infected with HIV in India, with heterosexual intercourse as the main mode of HIV transmission.<sup>1</sup> HIV prevention programs in India have targeted individuals at a higher risk for infection, such as female sex workers,<sup>2</sup> long-distance truck drivers,<sup>3-5</sup> or entire communities using community-based outreach education efforts.<sup>6</sup> The common framework of these interventions is

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to tailor prevention strategies to suit the needs and behaviors of the target population. For instance, sex worker interventions consider their needs of balancing health and livelihood issues;<sup>5</sup> truck driver interventions seek to capture their attention by understanding needs for information and facilitators of behavior change.<sup>4</sup>

There is growing evidence, however, that HIV prevention efforts should focus on places as well as people.<sup>7</sup> Studies in South Africa suggest that venues in the community such as bars and nightclubs may be appropriate targets for prevention efforts as this is typically where sexual networks converge and sexual services are negotiated.<sup>8</sup> For other public health challenges, there is precedence of overlapping geography and health promotion initiatives. The massive PolioPlus campaign in India<sup>9</sup> is a yearly initiative to promote polio vaccination that brings the vaccine and educators to the location of people in need, such as villages and schools. In HIV prevention, venue-based interventions may be appropriate where the audience can be clearly reached. Several programs have targeted women for family planning,<sup>10</sup> microcredit, and health promotion. Others that focus on women in sex work have taken their message to the red light areas where women can be reached to discuss prevention.<sup>11</sup> Finding a venue to reach men in India might be difficult. Men are more mobile. They typically travel long distances to work, or live away from home to be close to the workplace. While men at higher risk may be targeted in the red light areas, they may not be a receptive audience for HIV prevention messages in such a milieu. Furthermore, heterosexual men might not respond to traditional approaches to behavior change. Approaches such as communication initiated by their spouse might be met with adverse outcomes such as perpetration of violence,<sup>12</sup> and behavior change urged by their doctors can often result in nonadherence.<sup>13</sup> Identifying venues to reach heterosexual men and approaches that might be used to deliver prevention messages is thus an important first step for prevention programming in India.

The aim of this study is to explore wine shops as a venue for HIV prevention in the southern Indian city of Chennai. Wine shops in India are community-based, licensed commercial establishments that sell alcohol for consumption on premises or on a take-out basis. We decided to focus on wine shops for three reasons. First, high rates of alcohol use and hazardous drinking are reported among men in India. There are 31 states in the Indian union and alcohol use reports vary from state to state, ranging from 6% (in a state under prohibition) to 75%. Studies investigating dependence consistently report that approximately half of those who drink alcohol show signs of dependence.<sup>14</sup> Using self-reports, a survey in New Delhi found that 43.4% of respondents met the Diagnostic and Statistical Manual of Mental Disorders, 3rd edition, alcohol dependence criteria that consider both the pathological use patterns and the presence of tolerance or withdrawal symptoms in the individual.<sup>15</sup> Hazardous drinking has been defined in the literature as a score of 8 or greater in the 10-point assessment of the Alcohol Use Disorders Identification Test<sup>16</sup> and has been reported to range from 21 to 48%<sup>17</sup> of the population in two recent studies. Second, preliminary studies by our team comparing a community-based sample to wine shops suggested that the wine shop sample had significantly higher sexual risk behaviors.<sup>18</sup> Finally, alcohol use has been associated with HIV and STDs and sex with female sex workers<sup>19</sup> and with behavior risk factors such as extramarital sex among men in urban India.<sup>20</sup> Driven by these reasons, we began our exploratory study. The findings might help understand the context of alcohol use and sexual risk among men, which might be beneficial in designing future interventions targeting men.

## METHODOLOGY

This study was conducted as part of the formative research phase of the National Institute of Mental Health Collaborative HIV/STD Prevention Trial. This five-country trial, based on the theory of diffusion of innovations,<sup>21</sup> was planned to test the efficacy of HIV prevention messages disseminated through community popular opinion leaders (CPOLs). CPOLs were efficacious in influencing positive attitudes and safe sexual behavior of their peers.<sup>22</sup> In Chennai, we aimed to select and train CPOLs from wine shop patrons to disseminate prevention messages.

We used four data collection methods in this study. All these methods were implemented between the years 2002 and 2003. First, we conducted mapping exercises in 100 wine shops. Wine shops were selected purposively to represent all geographic regions of the city. Second, we conducted participant observations in 76 wine shops. These shops were a subset of the mapped locations and were selected for variance in client size, time of patronage (afternoons and evenings), and location (residential vs. business locations).

During observations, which we conducted over a period of 3 months, observers spent between 1 and 2 h in the wine shop to record specific characteristics such as size, type of clientele, and methods of delivery of alcoholic beverages. We also noted the average number of clients in the wine shops and patronage patterns at different times of day and week. Staffing patterns in wine shops and interactions of clients and staff were also systematically observed and recorded. When possible, we listened to conversations in wine shops and noted interactions between clients. Notes were made on structured observation forms during the observer's visit to the wine shop. Observations were conducted in the morning hours (11 A.M.–3 P.M.;  $n=55$ ) and evening hours (after 6 P.M.;  $n=21$ ). Third, we conducted in-depth interviews with 39 individuals associated with the wine shops. The interviews included male ( $n=19$ ) and female ( $n=6$ ) patrons. We also interviewed wine shop owners ( $n=4$ ) and staff members ( $n=6$ ) and vendors outside wine shops ( $n=4$ ). We identified these respondents during mapping and observation exercises and with the help of wine shop staff persons. To male and female patrons of wine shops, we posed questions about wine shops as a venue for social interaction and probed about sexual behaviors (types of sexual partners, networking for sexual partners, use of condoms) and the role of alcohol in sexual behavior (whether it is used prior to sex, use of condoms when alcohol is used). To wine shop staffers, we asked about clients' alcohol consumption practices, sexual practices, and popular topics of conversation in wine shops. We also asked owners, staffers, and vendors to speak about the role of wine shops as a venue for facilitation of sexual services and as a potential venue to house HIV prevention services. Mapping, participant observation, and ethnographic interviews were conducted by trained male researchers.

Finally, we conducted a survey of wine shop patrons ( $n=118$ ). We developed the survey questionnaire based on ethnographic data findings and to inform intervention design. We elicited responses on participants' sexual behavior and alcohol use behavior. For sexual behavior, we asked about recent (past 3 months) sexual behavior, relationship with most recent partner, frequency of sexual intercourse in the past months, and condom use in these instances. We also asked about frequency of alcohol use before sexual encounters. For alcohol use, we assessed frequency and quantity of alcohol use, proportion of income spent on alcohol, and reasons for consuming alcohol.

We conducted interviews by systematically sampling every third client in the wine shop. All participants who were sexually active and were between 18 and 40 years

of age were eligible to participate. The survey questionnaire was administered using a computer-aided personal interview method in which an interviewer administered the questionnaire and entered the responses directly into the computer. All questions were administered in Tamil, the local language.

## DATA ANALYSIS

After mapping exercises, hand-drawn maps were manually reviewed and their information was summarized in two categories: size of wine shop and services in the wine shops, such as attached bar. Participant observations and ethnographic interviews were analyzed using Atlas.ti (version 4.1, Scientific Software Development, Berlin, Germany) textual analysis software. Observations were coded for three main themes (or codes as they are called in the software program): size of clientele, gender of clientele, and social interaction in wine shops (here we coded for whether people drank alone or in groups and noted topics of conversations). Ethnographic interviews and discussions were tape-recorded in Tamil (the local language), translated, and transcribed in English. The data were reviewed for four main codes: wine shops as a venue for social interaction, content of conversations in wine shops, alcohol consumption patterns, sexual behavior, and feasibility of wine shop as a venue for HIV intervention. Text that matched these codes were retrieved and reviewed. Matrices were developed for each code to enable organization of the data and to identify similarities and contrasts across related themes. Survey questionnaire data were transferred to the trial data-coordinating center to ensure integrity of responses and standardized data cleaning and were subsequently analyzed using the statistical software program STATA.

We completed descriptive analyses of the data and generated central tendency measures. The outcome was coded as a dichotomous variable of ever use and never use of condoms. We then conducted univariate and multivariate logistic regression analyses to determine predictors of this outcome and explore various alcohol use and wine shop interaction variables as covariates in the regression analysis. We initiated our research after ethical review and approval from the institutional review boards of the YR Gaitonde Center for AIDS Research and Education in Chennai, India, and the Johns Hopkins University Bloomberg School of Public Health in Baltimore, MD.

## RESULTS

### **Wine Shops: A Venue for Alcohol Consumption in Chennai.**

Wine shops in Chennai primarily sell alcohol, typically distilled spirits and beer. Typically, wine shops open early in the morning and remain open until midnight. Our mapping exercise showed that wine shops are typically about 300 square feet in size, housing an area where alcoholic beverages are stocked (often prominently visible) and from where the cashier oversees purchase and an area for patrons, called the “bar,” where snacks are generally available. The wine shop staff consists of the seller (the person who dispenses the liquor), the cashier (who only takes care of cash flow), and the bar boys, young men who serve snacks and maintain the cleanliness and flow of liquor in the bar. Outside the bar, there are often food vendors and small kiosks that sell cigarettes, snacks, and, occasionally, condoms.

Participant observations documented service and patronage patterns in the wine shops. Alcohol is served in units of milliliters, or “millies,” the term used by patrons while ordering alcoholic beverages in the wine shop. On average, a wine shop serves about 200 regular (at least three times a week) customers. Wine shops located near busy thoroughfares and main bus and train stations serve larger clienteles. There are many more patrons in the evenings as compared to mornings. While a majority of patrons are male, in the wine shops we observed, seven of the 55 observations during morning hours recorded female clients. Other groups seen in the morning and not in the evenings were young boys and eunuchs (transgendered persons). While the range of time spent by clients observed in the morning was 5–30 min, evening patrons spent anywhere from 10 to 60 min. Patrons in the morning drank quickly (one wine shop seller in an in-depth interview said that these persons were on their “lunch break”) or took beverages away and were often alone. In the evenings we observed more group drinking and there was typically a lively discussion between and within groups of patrons. A wine shop seller we interviewed noted that men patronized a wine shop far away from their place of residence and stopped by the shop after work and opined the reason for this by saying that “patrons won’t drink in the area they live as some persons known to them may see them drinking.” Patrons in their interviews shared the names and locations of specific wine shops in Chennai that they frequented.

### **Wine Shop Clients Represent a Cross-Section of Society**

During participant observation, we noted that most clients were men, and based on patrons’ clothing, accessories, and content of conversations, we inferred that wine shops patrons were from various socioeconomic strata. For instance, autorickshaw drivers often wore khaki pants and shirts and talked about their “savari,” or fares. These observations were also confirmed in ethnographic interviews. Wine shop sellers reported that patrons ranged from young men to students, “officer-looking types” (indicating well, professionally dressed individuals), daily wage laborers, construction workers (men and women), “rich people,” and women in sex work. Our survey data provide information on patrons’ demographics (Table 1). Of the men we interviewed in the survey ( $n=118$ ), one identified himself as a eunuch, or a transgendered person. Most men (83%) were over the age of 25, and the majority of them were currently married. Sixty-five percent of the participants had at least 10 years of schooling, and 22% reported education over 10 years. Sixty-one percent of the men reported earning a steady income.

### **Alcohol is Consumed Frequently and at High Levels**

Observations of alcohol use in wine shops revealed two kinds of drinking patterns: binge drinking, where patrons arrive and consume in quick succession several rounds of alcohol and then leave, or drinking over time, where patrons arrive with friends and spend extended time drinking and eating snacks in the bar. Interviews indicated that people drank more often on paydays, on those days when they get extra income, when a friend buys them a drink, or on occasions such as festival days or days when there are deaths in the community. On a typical visit to a wine shop, almost all patrons reported consuming distilled spirits as well as beer. Participants reported that most patrons like their drinks “neat,” i.e., without any additives. Diluting alcohol with water or other liquids was considered a “foreign” pattern, as opposed to the *Tamil Nadu* pattern where drinks are consumed without water, soda, or other additives. When liquids were added, it was usually Coke or

**TABLE 1** Demographic characteristics of wine shop patrons (*n*=118)

Characteristic	% (total <i>n</i> )
Gender	
Male	99 ( <i>n</i> =117)
Eunuch	1 ( <i>n</i> =1)
Age	
18–25	17 ( <i>n</i> =20)
26 or older	83 ( <i>n</i> =98)
Marital status	
Currently married or ever married	73 ( <i>n</i> =86)
Never married	27 ( <i>n</i> =32)
Education	
Less than 5 years	13 ( <i>n</i> =15)
5–10 years	65 ( <i>n</i> =77)
>10 years	22 ( <i>n</i> =26)
Proportion reporting a steady income	61 ( <i>n</i> =72)

Seven-up—to make it “sweet” to avoid the bitter taste. Wine shop staff and patrons both reported binge drinking—“I drink till I spend all my money,” and “I drink till I cannot stand any longer,” were some remarks by patrons. Some patrons reported drinking everyday as part of their routine, as this businessman described:

“My business will close for lunch at 3 P.M. I will then settle accounts and consume a quarter (180 ml or 6 oz). After some time I will buy one more quarter and consume. Then I will go home and have my lunch and sleep. I will get up at 6 P.M. and look after the business, and at about 9 P.M. I will have 90 ml. Then at 10 P.M., I will have one more 90 ml. At 11 P.M., I will have one more quarter after closing my shop.” Married man, age 32.

Patrons reported that they stopped drinking on any given day because they ran out of money, they knew their “limits” [“I know if I drink above one quarter (90 ml or 3 oz), I can’t stand up straight”], or the “person at home would shout.” It was customary to spend a good portion of the day’s income at the wine shop. Survey confirms several of these ethnographic findings. Table 2 shows the frequencies of patronage and alcohol use in the wine shop. Overall, 76% of participants reported that they visited wine shops with friends. Of all respondents, 65% reported that they expected to frequent the same wine shop over the next year. Fifty five percent of respondents reported that they consumed alcohol between 20 and 30 days in the past month, whereas 33% reported consuming alcohol between 10 and 19 days in the past month (mean=18.2 days). While 40% of men reported drinking 3 oz or less, 53% reported consuming between 4 and 5 oz, and 7% reported consuming six or more ounces during a typical visit to a wine shop. Thirty five percent of participants spent more than half their daily income on alcohol.

### Reasons for and Consequences of Alcohol Use

In ethnographic interviews, the most quoted word to describe the reason for using alcohol was to be “jolly.” Jolly was described variously as a state of “happiness,” “a stage of forgetting oneself,” and where people forget their “mental worries” and can be “free.” Married men drank expecting to forget these worries or because there

**TABLE 2** Frequency distribution of alcohol use behaviors of wine shop patrons (*n*=118)

Alcohol use behavior	% (total <i>n</i> )
Come to wine shop with friends	76 (90)
Frequency of wine shop visits in a year	
Less than 6 months in a year	82 (97)
Six and more months in a year	17 (21)
Days per month that alcohol used	
Less than 10 days	12 (14)
10–19 days	33 (39)
20–30 days	55 (65)
Amount of alcohol consumed in a typical wine shop visit	
3 oz or less	40 (47)
4–5 oz	53 (63)
6 oz or more	7 (8)
Amount of daily income spent on alcohol	
Less than half	65 (77)
Half or more	35 (41)
Reasons for drinking alcohol	
Alcohol helps me relax	53 (62)
Alcohol helps me forget worries	58 (69)
Alcohol makes me social	46 (54)
Alcohol makes me feel confident	56 (66)
Alcohol makes me want to have sex	68 (80)

was “no peace of mind at home.” Unmarried men had concerns over broken relationships, frustrations over not being married, and their inability to fulfill their responsibilities at home. In this quote, an unmarried man discusses the role of mental distress on his drinking:

“Family difficulties...not enough food to eat...marital problems of my younger and elder sisters. Due to all these problems I drink. Secondly and the main reason is that I am not employed and my family is trying to arrange my marriage. Since I did not get a good job, I have been postponing this arrangement. Once I get a good job, I will get married...Sometimes, I feel depressed saying why is it that at this age I am not able to get married and enjoy my wife. I then feel like drinking and want to die.” Unmarried man, age 29.

Participants reported variously that after drinking “I will like going towards doing something wrong (visit a sex worker)” or “I will get the urge to have sex.” Several participants reported that alcohol gets them in the “mood” for sex:

“They drink to get into that mood. The ‘mood’ is being happy with women. For some people, they may not be able to have sex freely and independently. The drink takes them directly to the person’s ‘mood.’” Unmarried man, age 22.

Table 2 presents survey data on reasons for alcohol use. Fifty-three percent of participants responded that alcohol use made them relax, 58% said it helps them forget their worries, 46% reported that alcohol makes them feel social, 56% said that alcohol evoked a sense of disinhibition, and 68% said that alcohol evoked sexual feelings.

### Sexual Behaviors of Wine Shop Patrons

We documented several references to sexual behaviors of patrons. During observations, we overheard conversations (primarily among young men) that used sexual innuendoes to talk about the female anatomy and sexual behaviors. Conversations also focused on female movie stars, with comments on their appearance and clothing. During ethnography, we gathered information about patrons' sexual behavior from the patrons themselves and from the wine shop staff persons. Patrons' responses can be classified into three categories: relationship between drinking alcohol and having sex, sexual networking in wine shops, and sexual behavior and individual deliberations about safe sex under the influence of alcohol. Typically, alcohol use preceded sex. Alcohol reportedly provided men with courage to have sex with a sex worker. As one man reported,

"To visit sex workers you need courage. Unless I drink it is not possible."  
Married man, age 31.

Another reported that alcohol helped him to feel disinhibited in going to a sex worker and seeking her services. Participants also reported that, while alcohol precipitated an "urge" to have sex, the amount of alcohol consumed was critical. In our ethnographic and survey data, we found several references to a threshold level of alcohol consumption that gave participants the confidence to have sex. This threshold was 180 ml (6 oz) of alcohol (referred to as a "quarter"). As one man remarked,

"It is true that the alcohol induces sexual urges, but this is for people who drink moderately. But a person who drinks in excess does not enjoy the sex and feels weak. A person who has a quarter will have the strong urge to have sex."  
Married man, age 36.

Sexual urges after drinking were frequently met with the help of friends. Friends were not only drinking partners but also integral members of a patron's sexual network. They provided contacts and introduction to sex workers and *aunties* (a term referring to married women who provide sex services) and friends. As one man reported,

"I used to talk to my friends about sex. For quite some time I was telling them that I am mentally upset and I am looking forward to having sex with a woman. I was requesting them to look for me, since my friends regularly go. After fixing a woman they called me and I went. That was the first experience for me and that is the first time I had sex with a woman." Unmarried man, age 29.

Another common practice was group sex among several men and a single woman. Friends typically would leave the wine shop and solicit sex from a sex worker. The main reason men reported this behavior was to enjoy the experience together and for the cost savings inherent in sharing a woman. While multipartner sex and combining sex and alcohol were commonly reported, patrons also reported various views on condom use. Condom use knowledge was widely prevalent. Those who used condoms said they did so because they drank within limits or were asked by the sex partner to use condoms. Men reported not using condoms because they did not like the feeling of having the condom on, because they thought a potential female partner was a "family woman or a homely woman," because their female



partner “took a pill before sex,” or because they thought that condoms were only for use by married men. Another reason for not using condoms was that men were embarrassed to purchase condoms or that they had sex on an impulse. As a married man said when asked about condom use, “When you are drunk and have a strong sexual urge, how do you control this or what do you do?” Among unmarried men, the experience of sex was given more importance than protection.

The ethnography findings of sexual activity and safe sex are supported in the survey findings. In the survey all patrons reported being sexually active. In all, 53% reported having three or more partners in the past 3 months, and 71% reported a history of having exchanged money or commodities for sex. We looked at sexual behaviors with most recent sexual partner in the 3 months prior to the survey. The results are shown in Table 3. Twenty-eight percent of men reported that their most recent partner was their wife. Others reported that this was a friend (31%), a casual contact (22%), or a female sex worker (14%). Respondents reported a range of 0–168 sexual encounters with this recent partner in the past 3 months. In 84% of these encounters, condoms were not used. Inconsistent condom use was seen in 12% of respondents who reported using condoms 1–10 times in the last 3 months and 4% who reported more than 11 instances of condom use. In the last 10 sexual encounters with the most recent partner, 42% of respondents reported using alcohol less than five times before sex and 58% reported using alcohol five or more times in the 10 encounters.

### Examining Predictors of Safe Sexual Behavior among Alcohol Users.

Following the observational and ethnographic data analysis and frequency distributions of various characteristics of alcohol users, we conducted statistical

**TABLE 3** Frequency distribution of sexual behaviors with most recent partner of wine shop patrons in past 3 months

Sexual behavior	% (total <i>n</i> )
Reported relationship with most recent partner	
Wife	28 (33)
Friend	31 (37)
Casual partner	22 (27)
Woman in sex work	14 (17)
Other partner	5 (4)
Number of sexual encounters (range 0–168)	
0–20 times	64 (77)
21–40 times	16 (19)
41–60 times	11 (13)
61 + times	9 (9)
Number of times condom was used in sexual encounters in past 3 months (range 0–30)	
Never	84 (98)
1–10 times	12 (17)
11 + times	4 (3)
Number of times alcohol was used in the past 10 sexual encounters with most recent partner	
Less than five times	42 (49)
5–10 times	58 (68)

analyses to examine the factors predicting condom use in this population. We report the results from univariate logistic regression of our survey data in Table 4. As condom use was not widely prevalent, we examined the factors that predicted ever use of condoms in the past 3 months with the most recent partner. We found that older age, talking about sex with friends in wine shops, drinking alcohol to feel disinhibited, and reporting the most recent partner as a casual contact were significant predictors of never using condoms. However, those reporting a woman in sex work as their most recent partner had higher odds of using condoms. When these factors were entered in a multivariate model (data not shown), controlling for other model variables, we found a significantly lower (OR=0.28) adjusted odds ratio of not using condoms among those who drank to feel disinhibited and significantly higher odds of condom use (OR=20.1) among those whose most recent partner was a sex worker.

### Potential for HIV Prevention in Wine Shops

Our mapping exercises showed that wine shops are closed private spaces. Although they are prominently located and highly visible landmarks, patrons in the bar are typically regular customers who are comfortable with each other and the wine shop staff. As such, wine shops offer a private space where conversing about topics, such as sex, that may be taboo elsewhere is possible. While we did not see any condoms stocked in wine shops observed, there are several spots (near the cashier, in the bar area) to potentially place condoms. Where wine shop staff are amenable, interventions could also place posters on walls and stock educational materials. In comments during participant observations and in ethnographic interviews, wine shop staff were generally supportive of HIV interventions in their premises and welcomed interventions such as stocking free condoms or selling condoms in wine shops. As one owner said, “there are a lot of people who are not aware of the consequences of these diseases.” They also perceived benefits of targeting wine shop patrons in HIV prevention efforts. Sellers talked about their rapport with customers

**TABLE 4** Univariate analysis to predict the odds of ever use of condoms among wine shop patrons

Independent variable	Odds ratio	<i>P</i> value	95% confidence interval
Age			
18–25 years	1.0		
26–40 years of age	0.28	0.023	0.09–0.84
Talking about sex			
Do not talk about sex with friends	1.0		
Talk about sex with friends	0.38	0.06	0.13–1.06
Drink alcohol to feel aggressive			
No	1.0		
Yes	0.14	0.00	0.04–0.46
Last partner was sex worker			
No	1.0		
Yes	24.1	0.00	7.2–79.9
Last partner was a casual contact			
No	1.0		
Yes	0.15	0.002	0.04–0.50

and said that “it is easier to talk about HIV here than go in search of them to their homes.” He continued, referring to customer loyalty, “Those who do not come for a day or two will definitely show up at least in 10 days and so reaching them here is effective.”

Wine shop patrons themselves were enthusiastic about HIV prevention efforts. When we described that the purpose of this research was to inform a CPOL intervention, one patron volunteered to work as a CPOL and said that this method of spreading AIDS awareness will work “because we are going to tell someone we know.”

In addition to staff and patron support for HIV prevention work, we found that the wine shop context may be well served with the HIV education effort. As this staff person reported,

“There are brokers hanging around the wine shops to facilitate sex. Also, there are prostitutes hanging around in every bus stop whom patrons can easily identify. Once they fix the rates, they go to some lodge where this woman has an arrangement already.”

Wine shop staff also reported that autorickshaw (three wheeler taxis) drivers from rickshaw stands near the wine shop played an important role in this networking: in addition to soliciting customers for female sex workers, some provided transportation to the venue where the sex worker was located. While sexual services may be negotiated in or near wine shops (bus stops, truck stops), patrons reported on specific lodges and venues (beaches, tourist spots in or near the city, movie halls) as places where sexual services are exchanged.

## DISCUSSION

In the Chennai context, our data suggest that wine shops and their immediate vicinities may be important venues for HIV prevention interventions. They are numerous in Chennai, and stakeholders agree on the importance of HIV education among their clients. Our finding that 65% of respondents anticipate patronizing the wine shop in the next year indicates a level of loyalty in the patronage that can work to the advantage of a venue-focused intervention. Furthermore, sex is a popular topic of discussion in wine shops, and these discussions also involve the sharing of information about sex workers and sexual networks. We also have evidence that brokers for sexual services and sex workers are present in the vicinity of wine shops. The convenience and feasibility of wine shops to house an intervention, the natural convergence of sexual networks<sup>24</sup> in these venues, and the unique opportunity to target the important<sup>25</sup> but difficult-to-access risky group of men, and male clients of sex workers in particular, make wine shops an excellent candidate venue for HIV prevention intervention.

The data on alcohol use and sexual behavior of patrons highlight both the need for further research into the linkages between alcohol use and risky sex and the manner in which safe sexual messages may be framed. We see high and frequent alcohol use in the population, suggesting that alcohol dependence may be a concern for patrons. Alcohol dependence has been associated with decreased ability to adopt safe sexual behavior<sup>26</sup> and, depending upon individual cognitive abilities and fears, it may foster risky sexual behaviors.<sup>27</sup> Patrons in Chennai drank for various reasons: to be social and stress-free, to feel disinhibited, and to give confidence to have sex. Other factors such as lack of a steady sexual partner, frustration with life,

expectations from family, and poverty were also reported as motivators for alcohol consumption. We need to better understand consumption patterns and how these interact with individual sexual health. We also found that wine shop patrons drink to feel confident about having sex and expect to feel disinhibited, and, in our statistical analysis, drinking to feel disinhibited was significantly associated with nonuse of condoms. Researchers have also discussed the role of alcohol expectations – what people expect to do after they drink – and found that sex-related alcohol expectancies were associated with unsafe sex.<sup>28</sup> This phenomenon needs further study in Chennai. Another study finding that merits further investigation is the burden of alcohol use on household wages. We found that 35% of alcohol users in this study reported spending half or more of their income on alcohol. Understanding how spending affects household economy and health of patrons and their families may help design tangible education programs.

Our findings on sexual behavior after alcohol use are concerning. Over 50% of men reported being under the influence before sex in their recent sexual encounters. That over 80% of these are unprotected has important sexual health implications. But perhaps most interesting is the fact that patrons perceive a threshold (a quarter or 6 oz of alcohol) beyond which safe sex considerations may be clouded. Testing if this level varies between individuals, understanding barriers and facilitators to consume alcohol within this threshold level, and developing appropriate prevention messages that incorporate safe sex messages in the context of this threshold may be important next steps to planning wine shop-based interventions.

We can develop lessons on framing safe sex messages from our findings about condom use among wine shop patrons. We see that condom use awareness is high in this population. There is also evidence that condom use is high with sex workers both because they insist on using condoms with clients and because patrons acquiesce to their insistence.<sup>29</sup> Perhaps this is the result of popular perceptions that HIV transmission is driven by female sex workers. That condoms are not used during sex with “family women” and with “aunties” signals the need to craft prevention messages that convey the broad range of risky sexual behaviors. Particularly, focusing on unmarried men among whom sexual experience outweighs safe sex considerations may be important for HIV prevention projects as these men not only practice unsafe sex, but also participate in group sex, which has the potential to transmit multiple infections.

In conclusion, we collected descriptive statistics from a relatively small sample of community residents, primarily serving as preliminary data to design HIV prevention interventions. While this small sample size limits the statistical power of our findings, from a public health standpoint, our findings suggest a need for action. We also have some limitations in the methodology. We asked questions on sexual behavior with the most recent partner. This may have led to information bias with married men underreporting their behaviors with nonspousal partners. We also did not systematically collect information using standardized measures on alcohol expectancies and alcohol dependence. Doing so could possibly have strengthened our conclusions about the association between alcohol use and sexual behaviors. Finally, this analysis is based on data collected 3 years prior to reporting and we cannot rule out secular trends in behaviors that may render our odds ratios as overestimates. Despite these limitations, our results suggest the need to explore HIV prevention needs of wine shop patrons in particular and perhaps alcohol users in general in addressing HIV prevention efforts in southern India.

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