Predictors of multiple sexual partnerships among women and men in two urban townships in Bhutan

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ABSTRACT

Introduction: Multiple sexual partnering is a known predictor for risk of STI and HIV transmission. This study explored the multiple sexual partnering and its predictors among people who visited public social venues (bars, restaurants, hotels, lodges, cafes, karaokes and discos) in Bhutan's two largest townships of Thimphu and Phuntsholing. **Methods:** We interviewed 755 sexually active venue patrons from 102 randomly selected venues (56 in Thimphu, 46 in Phuntsholing) from a list of all venues identified as having sex workers or patrons seeking sexual partners. Both bivariate and multivariate analyses were carried out to characterize the predictors of multiple sexual partnering among 755 respondents who had previously had sex. **Results:** Of the 755 patrons, 46.09% had one sexual partner while the remaining 54.91% had multiple sex partners (≥2 sexual partners) in the 12 months preceding the study. Overall, 6.23% of respondents had received payment from someone at least once for sex; 34.61% of male respondents had paid someone at least once for sex. Nearly all patrons (97.72%) had heard about HIV/ AIDS. About one quarter (24.20%) felt that they were at risk of being infected with HIV, while 37.28% had taken an HIV test in the 12 months preceding the study. In multivariate analysis, males had higher odds of multiple sexual partners compared to females (OR =3.19, 95% CI 1.90-5.20). The odds of having multiple sexual partners was 2.24 (95% CI 1.30-3.90) times higher in those never married compared to those who were married/divorced or separated; multiple partnering increased with increasing age (OR = 1.07 per year, 95% CI 1.02-1.13). Between the townships of Phuentsholing and Thimphu, the odds of multiple sexual partnering did not vary. **Conclusions:** Venue patrons had a high prevalence of multiple sexual partnering and have the potential for creating sexual networks that could propagate wider transmission of infection, including to their monogamous partner. Targeting HIV prevention program to these groups of people in urban locations presents an opportunity to make a great impact in maintaining Bhutan's current low HIV epidemic level.

Key words: Bhutan; HIV Transmission; Sexual partnering.

INTRODUCTION

Multiple sexual partnerships increase the chances of becoming infected with sexually transmitted infections (STIs) including HIV[1]. People with multiple sexual partners also place their monogamous sexual partners at increased risk of STI[2]. Furthermore, increasing number of sexual partners has been strongly associated with increasing risk of substance use, especially among women[3]. Although HIV prevalence in Bhutan still remains low, the yearly case reports have been steadily increasing since the detection of the first infected Bhutanese in 1993[4], the cumulative total of 432 HIV cases, with roughly equal numbers of men and women infected and most reported as due to sexual transmission[5].

Socio-economics, mobility, commercially driven media, entertainment industries and considerable freedom from family have all been attributed to evolution of sexual mores and lifestyles in other countries[6]. However, no studies have measured the prevalence of multiple sexual partnerships among Bhutanese men and women in urban Bhutan.

Due to increasing urbanization, Bhutanese society is rapidly becoming exposed to modern lifestyles in the urban environment[7]. This study therefore assessed the prevalence of multiple sexual partnering in a sample of patrons visiting bars, restaurants, hotels, lodges, cafes, karoakes, drayangs and disco bars in Bhutan's two biggest urban centers, Thimphu and Phuntsholing. Thimphu is the capital city with the biggest urban settlement, hosting nearly one seventh of the country's 700,000 population. Phuntsholing is the second major city and is a commercial hub located at the Indo-Bhutan border adjoining the city of Jaigaon in the state of West Bengal, India.

We defined multiple sexual partnering among the patrons as having more than one sexual partner in the past 12 months. We present predictors of multiple sexual partnering in these two urban settings, and discuss implications of risky sexual behaviours on the STI and HIV epidemics in increasingly urbanizing Bhutan.

The Research Ethics Board of the Ministry of Health approved the studies at two sites through protocols 023 and 028 in Thimphu and Phuntsholing respectively. The data collection in Phuntsholing occurred about two months later due to administrative delays.

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METHODS

A cross-sectional survey on sexual behaviour was conducted among patrons visiting public social venues in the two cities of Thimphu and Phuntsholing, Bhutan during 2009-2010. Venues included bars, restaurants, hotels, lodges, cafes, karaokes and discos. Drayangs, dance bars which are popular upcoming entertainment venues, were also included. The study first enumerated, mapped and profiled all identifiable venues in the downtown areas of the two cities, totalling 203 in Thimphu and 176 in Phuentsholing. From this list, 56 venues in Thimphu and 46 venues in Phuntsholing were randomly selected for the sexual behaviour survey, based on the mapping determining that there were 5 or more female sex workers (FSWs) present on a typical day, or 10 or more patrons seeking sexual partners (men seeking women, women seeking men, or men seeking men) on a typical day. These venues were systematically visited, and patrons were approached and invited to participate. If they agreed, they were provided with informed written consent and were interviewed in a private place near the venue. We conducted the analysis of predictors of multiple sexual partnering using bivariate and multivariate logistic regression among 755 respondents in the two townships who had previously had sex. Demographic characteristics and behaviors: age, age at first sexual intercourse, years of education, gender, marital status, perceived risk for HIV, HIV test for past 12 months, and City were included in the bivariate model. A multivariate logistic model was constructed by adjusting for the variables which were statistically significant in the bivariate model.

RESULTS

A total of 755 venue patrons were included in the sample, comprising 420 men and 355 women (Table 1). Of the respondents, 57.90% were from Thimphu and 42.10% from Phuntsholing.

The mean age of respondents who were sexually active was 27.4 years old. Mean years of schooling was 10.4 years. Of the 755 respondents who had had sex before, 420 (56.00%) were males and 335 (44.00%) females. Regarding marital status, 48.00% were currently married, 42.00% were never married and 10.00% were divorced/separated/ widowed.

The mean age at first sex was 19.4 years. Of the 755

Table 1. Characteristics of venue patrons surveyed, Thimphu and Phuntsholing, Bhutan, 2009-2010 (*n*=755)

	Male	Female	Total
Variables Re-order so the same order in table as in text.	n^1(%)	n^2(%)	*n*(%)
Total	420 (55.63)	335 (44.47)	755 (100.00)
City			
Thimphu	253 (57.89)	184 (42.11)	437 (57.88)
Phuentsholing	167 (52.52)	151 (47.48)	318 (42.12)
Mean age in years (SD)	27.95 (6.16)	26.71 (5.07)	27.40 (5.73)
Mean age at first sex (SD)	19.04 (3.51)	19.99 (2.98)	19.46 (3.32)
Years of education (SD)	10.35 (3.00)	10.16 (6.04)	10.27 (4.53)
Marital status			
Currently married	199 (47.38)	168 (50.15)	367 (48.61)
Never married	188 (44.76)	127 (37.91)	315 (41.72)
Divorced/separated/widowed	33 (7.86)	40 (11.94)	73 (9.67)
Relationship with first sexual partner			
Spouse	48 (11.46)	124 (37.24)	172 (22.87)
Lover	213 (50.84)	174 (52.25)	387 (51.46)
Others	158 (37.70)	35 (10.51)	193 (25.67)
Number of sexual partners in past 12 months (n^1=420, n^2=335, *n*=755)			
1	151 (35.95)	197 (58.81)	348 (46.09)
2 – 5	224 (53.33)	130 (38.81)	354 (46.89)
>5	45 (10.71)	8 (2.39)	53 (7.02)
Received payment atleast once from someone for sex (n^1=419, n^2=335, *n*=754)	16 (3.82)	31 (9.25)	47 (6.23)
Paid someone at least once for sex (n^1=419, n^2=335, *n*=754)	145 (34.61)	6 (1.79)	151 (20.03)
Ever heard HIV/AIDS (n^1=416, n^2=330, *n*=746)	410 (98.56)	319 (96.67)	729 (97.72)
Feel at risk of being infected with HIV (n^1=406, n^2=317, *n*=723)	96 (23.65)	79 (24.92)	175 (24.20)
HIV test in the past 12 months (n^1=410, n^2=317, *n*=727)	157 (38.29)	114 (35.96)	271 (37.28)

Table 2. Bivariate analysis: Associations with multiple sexual partners among venue patrons in Thimphu and Phuentsholing, Bhutan, 2009-2010 (*n*=755)

Variables	Multiple sexual relationships	Monogamous sexual relationship	*p*-value
Age			
<20 years	10 (31.25%)	22 (68.75%)	0.027
20 – 29 years	272 (54.18%)	230 (45.82%)	
≥30 years	125 (56.56%)	96 (43.44%)	
Age at first sexual intercourse			
<18 years	112 (60.54%)	73 (39.46%)	0.030
≥18 years	294 (51.85%)	273 (48.15%)	
Years of education			0.070
≤12 years	312 (56.32%)	242 (43.68%)	
>12 years	41 (46.07%)	48 (53.93%)	
Gender			
Males	269 (64.05%)	151 (35.95%)	<0.001
Females	138 (41.19%)	197 (58.81%)	
Marital status			
Currently married	173 (47.14%)	194 (52.86%)	<0.001
Never married	180 (57.14%)	135 (42.86%)	
Divorced/others	54 (73.97%)	19 (26.03%)	
Perceived risk for HIV	114 (65.14%)	61 (34.86%)	0.001
HIV test in past 12 months	157 (57.93%)	114 (42.07%)	0.133
City			
Thimphu	250 (57.21%)	187 (42.79%)	0.033
Phuentsholing	157 (49.37%)	161 (50.63%)	

patrons who answered the question about the number of sexual partners, 46% had one sexual partner while the remaining had multiple sex partners (≥2 sexual partners) in the 12 months preceding the study. Among the respondents who have had sex, 23% had their first sexual encounter with their spouses, 51% with their lovers while the remaining 26% had their first encounter with other persons (e.g. family members, classmates, casual friends, strangers, etc).

Overall, 6.2% of respondents had received payment from someone at least once for sex (9.3% of women, 3.8% of men); 20.0% had paid someone at least once for sex (mostly men). Nearly all patrons (98%) had heard about HIV/AIDS. About one quarter (24%) felt that they are at risk of being infected with HIV, while 37 % had taken an HIV test in the 12 months preceding the study.

Multiple sex partnering was more common with increasing age while younger age groups were monogamous 12 months preceding the survey (p=0.027, Table 2). Individuals who had first sexual intercourse at younger than 18 years were more likely to engage in multiple sexual partners than those who had first sex at 18 years or older (p=0.030). Multiple sexual partnering among those who had 12 or less years of education and those who had more than 12 years of education did not vary(p=0.070). Males were more likely than females (64% versus 41%) to be engaged in multiple sexual relationships (p<0.001).

Multiple sexual partnering was 47% among those currently married, 57% among those who were never married, and highest (74 %) among those who were divorced (p=<0.001). The majority (65%) of respondents with multiple partners perceived that they are at risk of HIV compared to 35% for those in monogamous sexual relationship (p=0.001). However, there was no significant difference in testing for HIV in the last 12 months between those with versus those without multiple partners (58% vs. 42%, respectively, p=0.133). More in Thimphu (55%) reported multiple partners compared to Phuentsholing (45%, p=0.033).

In multivariate analysis, males had higher odds of multiple sexual partners compared to females (3.19, 95% CI 1.9-5.2, Table 3). Furthermore, the odds of having multiple sexual partners was 2.24 (95% CI 1.3-3.9) times higher in those never married compared to those who were married/divorced or separated. Earlier sexual debut (before age 18 years) was borderline associated with multiple partnering. The odds of

Table 3. Multivariate analysis: Independent predictors of multiple sexual partnerships among venue patrons in Thimphu and Phuentsholing, Bhutan, 2009-2010 (*n*=755)

Predictors	Adjusted Odds ratio (95% CI)	*p*-value
Gender (male vs. female)	3.19 (1.90 – 5.20)	<0.001
Marital status (never married vs. currently married/ divorced/separated)	2.24 (1.30 – 3.90)	0.004
Age at first sex (<18 vs 18+)	1.54 (0.91 – 2.60)	0.100
Age per year	1.07 (1.02 – 1.13) per year	0.008
Ever used condoms (no vs yes)	0.36 (0.19 – 0.69)	0.002

multiple partnering was 1.07 times higher with every one year increase in age (OR 1.07 per year, 95% CI 1.02-1.13). Never using condoms was associated with lower odds of having multiple partners (OR 0.36, 95% CI 0.19-0.69). The odds of having multiple sex partners did not differ among participants in townships of Phuentsholing and Thimphu when adjusted for all other variables.

DISCUSSION

Nearly half of the sexually active men and women at diverse venues in two urban areas of Bhutan had multiple sexual partners within the last year. This is comparable to locations around the world where the prevalence of HIV is high, such as 42 % of sexually active respondents in Tanzania,and to liberal cities in the West, such as 50 % among immigrants in Amsterdam9. The females with multiple sexual partners in our study sample much higher when compared to unmarried sexually active female undergraduates in China (41.2 % versus 29.0%)[5]. Other findings in our survey are consistent with the international literature, such as higher levels of multiple sexual partners among those with older age, younger age at first sexual intercourse, and fewer years of education[9-12]. Our finding of lower percentages of multiple sexual partnering in females compared to men was also consistent with other studies[8,11,12]. Similarly, we found having multiple partners was lower in those who are currently married, but higher in those who were divorced/ widowed/separated compared to those who were never married[1,13].

A notable contrast points to the great need for increased access and uptake of HIV testing. While nearly two-thirds of persons with multiple partners perceived themselves at increased risk for HIV, they were no more likely to have tested in the last year. In a context where most HIV cases are due to sexual transmission, and where there are equal numbers of male and female cases, persons with multiple partners need to be encouraged to test. HIV care in Bhutan is free and early diagnosis can have great benefits in prolonging life and preventing onward transmission. The profile of persons with multiple partners presented here can help guide and target whom to test, especially with outreach to venues in urban areas of the country.

It is important to point out that this study has limitations. First, the sample was recruited by convenience in venues with sexually active persons and visible sex work. The results of this study cannot be generalized to the whole of Bhutan, but is applicable to the population that frequents the venues in which the study was done. However, a venue-based HIV programming in urban Bhutan can potentially reach the people engaging in multiple sexual partnerships, particularly through outreach education and HIV testing. Secondly, the data are self-reported and there are possibilities of misrepresentation of facts especially when it comes to sensitive issues like sex. For example, while Phuentsholing has a thriving sex trade as a border town, frequent police raids[14,15] may have driven sex workers away from our survey or cause respondents to under report their number of partners. This bias may be a reason why Thimphu residents reported higher levels of multiple sexual partners.

CONCLUSIONS

We document for the first time that half of sexually active people sampled at venues in two urban areas of Bhutan report multiple sexual partners including transactional sex. This is a cause for concern, as having multiple sexual partners increases the risk of becoming infected with STIs including HIV and may create sexual networks that propagate wider transmission of infection, including to monogamous partners[16]. There is need for further studies to comprehend intensity of sexual network patterns and rate of condom use among people who have multiple sex partners in the context of rapidly urbanizing Bhutan. Targeting HIV prevention programs on these groups of people presents the opportunity to make a great impact in maintaining Bhutan's current low prevalence of HIV.

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AUTHORS CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

GD: Concept, design, literature search, data collection and analysis, manuscript writing and review.

CU: Concept, design, data collection, manuscript writing and review.

BMR: Concept, design, data collection, manuscript writing and review.

SI: Concept, design, data collection, manuscript writing and review.

RL: Concept, design, data collection, manuscript writing and review.

JB: Concept, design, data collection, manuscript writing and review.

Author agree to be accountable for all respects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

None

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