



PREVALENCE OF HIV RISKY BEHAVIORS AMONG MEN WHO HAVE SEX WITH MEN IN ALBANIA

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ABSTRACT

Background: In Albania, Men who have sex with men (MSM) remain a hidden and stigmatized population. While most HIV cases are assumed to be acquired heterosexually, a 3-to-1 ratio of male to female diagnoses indicates that there may be substantial under-reporting of HIV infections acquired through sex between men. This article presents the findings from the HIV Biological Behavioral Surveillance Surveys (IBBS) conducted among MSM in Albania. **Aim:** The study aimed to determine the extent and types of risk behaviors, and HIV prevalence among MSM population. **Methods:** This survey used respondent driven sampling methodology (RDS) to recruit 554 in three cities. All participants were screened for eligibility, completed informed consent, and underwent a face to face interview. **Results:** Most MSM have multiple sex partners or concurrent relationships with different partner types including “regular”, “casual”, and “commercial” partners. Consistent condom use with different partners varied from the lowest (38%) with “regular” partners, 48% with “casual”, and 57% with “commercial” partners. **Conclusions:** The combination of HIV related risk factors among MSM population makes it imperative that this group be targeted as part of any HIV prevention strategy, and there is a need to use innovative approaches to increase access of MSM to HIV prevention and testing services.

KEYWORDS: HIV, Albania, sexual behavior, Men who have sex with men, respondent-driven sampling.

INTRODUCTION

By the end of 2021, the total number of registered HIV cases in Albania was 1506.^[1] The prevalence was estimated at 0.05%, with an overall incidence of 3.7 per 100,000 people. The majority of registered HIV cases are males. Since only a small proportion of the population is being tested for HIV, especially among key populations (KPs), the available data are likely to be an underestimation of the actual number of HIV cases.

A report on health in Europe reported that men are about three times more likely to be diagnosed with HIV than women. About 40% of new HIV transmission is through men having sex with men and 32% by heterosexual contact, while 4% of new cases are through drug injection.^[2]

MSM are the most hidden key population in Albania, hence MSM activities are not very visible owing to the overall stigma and discrimination experienced by this key population.^[3] A high number of MSM in Tirana visiting geographic locations were found in establishments like hotel, motels as opposed to open

areas, and guest houses. While most HIV cases are assumed to be acquired heterosexually, but a 3-to-1 ratio of male to female diagnoses indicates that there may be substantial under-reporting of infections acquired through sex between men.

Despite the relatively low HIV and other STI prevalence among key populations in Albania, data have shown they are engaging in behaviors that put them at risk for HIV and STI transmission.^[4] Factors that may be impacting the spread of HIV include a large migratory population, increases in tourism, marginalized ethnic groups, and a stigmatized MSM population. Furthermore, countries surrounding Albania have recently experienced an increase in their HIV-positive populations. The mix of these behavioral, socio-economic, geographical and cultural factors increases the likelihood that HIV infection becomes more prevalent.

There is a great need for surveillance among key populations for HIV to measure and monitor HIV prevalence, levels of risk behaviors and coverage with HIV prevention, and identify sub-groups and

geographical areas where the HIV burden and potential for HIV transmission is the greatest.

METHODOLOGY

Inclusion criteria

Individuals would be included in the study if they; (a) Men who had anal intercourse with another man in the past one year; (b) Aged ≥ 18 years; (c) were in possession of a valid peer recruitment coupon; (d) had lived in the survey area for at least three months before the survey; (e) were capable and willing to provide written or verbal informed consent to participate.

Sample size calculation

The following formula was used to determine sample sizes

$$n = D \frac{\left[\sqrt{2P(1-P)}Z_{1-\alpha} + \sqrt{P_1(1-P_1) + P_2(1-P_2)}Z_{1-\beta} \right]^2}{(P_2 - P_1)^2}$$

Where:

n = Sample size required per survey round

D = Design effect

$Z_{1-\alpha}$ = The z score for the desired confidence level, 1.96 for 95%

$Z_{1-\beta}$ = The z score for the desired power, 0.83 for 80%

P_1 = The proportion of the sample reporting indicator baseline

P_2 = The proportion of the sample reporting indicator at round 2

$P = (P_1 + P_2)/2$

The calculated sample size was 600.

Recruitment

The respondent Driven Sampling (RDS) was used to recruit MSM in Tirana, Durrës, and Elbasan. RDS is a variant of a chain referral sampling method which, when implemented and analyzed properly, yields data representative of the populations from which the samples were gathered.^[5] Recruitment begins with a number of purposefully selected members of the study population referred to as “seeds”. After enrolling and completing the steps in the survey, each seed is given a fixed amount (usually no more than three) of uniquely numbered coupons with which to recruit peers (other eligible MSM) into the survey.^{[6][7]} These recruited peers who also enroll in and complete the survey steps are considered the first wave of respondents. Successive waves of recruitment, ideally resulting in long recruitment chains of respondents, continue until the sample size is reached.^[8]

Respondents who presented a valid recruitment coupon to a survey site were screened for eligibility and provided informed consent for a face-to-face interview, HIV pre-test counselling and a finger prick test for HIV.

Data collection

A standardized behavioral questionnaire was used to collect data on demographics, behaviors potentially correlated with HIV and STIs, symptoms of STIs, HIV related knowledge, attitudes, practices, and testing, stigma, discrimination, access and potential barriers to services. The data collection process took place September-November 2019.

Data processing

RDS Analyst, a software package designed specifically for the analysis of RDS data, was used for analysis of population estimates, confidence intervals and category sample sizes.^[9] For aggregate analysis of all three cities, network weights were computed from RDS Analyst for each separate city (each sample was viewed as an independent network component) and then added to the complete database comprised of all sampled cities. Then a population weight was produced to account for the differences in population sizes for each city. The network weight and the population weight were multiplied to create an aggregate weight. These data were analyzed in STATA 13, with data set as survey data with standard errors calculated using bootstrapping.

RESULTS

The majority of MSM in Albania are 25 years and older. Half of the MSM in Elbasan were younger than 25 years of age, while in Tirana and Durrës they were 27% and 32% respectively. The median age of MSM participating in the survey was 26 years (range: 18 to 60); in Tirana the median age was 27 (range: 18 to 55), in Durrës 28 (range: 19 to 50), and in Elbasan 24 (range: 18 to 60). Population estimates indicate that one in ten of MSM never received any formal education, varying from 5% in Elbasan, 9% in Tirana, with the highest proportion (18%) in Durrës. The majority of MSM (41%) have completed high school, and 20% of them have a university degree.

Table 1: Socio-demographic Characteristics.

	Tirane N=279		Durrës N=136		Elbasan N=139		Total N=554	
	N	%, (95% CIs)	N	%, (95% CIs)	N	%, (95% CIs)	%	95% CIs
Age								
Mean	29.1		27.6		26.7		28.15	
Median	28		27		24		26	
< 25	82	26.6(20.9,32.5)	42	32.2(24.1,40.1)	71	49.6(41.2,57.9)	30.3	26.1,36.0
≥ 25	197	73.4(67.7,79.9)	94	67.8(59.8,75.8)	68	50.4(42.1,58.8)	69.7	63.9,73.8
Education								
Illiterate	23	8.6(5.2,11.6)	19	17.8(9.5,26.2)	6	5.0(1.6,9.3)	9.2	6.4,12.8
Highest education completed								
Primary	22	8.9(4.7,12.9)	10	9.2(4.1,14.4)	17	13.3(6.9,19.6)	9.5	6.7,13.2
Secondary (8 classes)	76	29.3(24.3,36.1)	49	34.3(25.1,43.2)	35	23.6(17.6,29.4)	29.6	24.6,34.9
High (12 classes)	102	40.1(34.9,45.5)	38	36.6(28.5,45.1)	68	50.8(44.1,57.5)	41.2	35.8,46.7
University	56	21.1(15.3,26.6)	20	19.7(10.2,29.0)	13	12.2(4.6,19.9)	19.8	15.7,24.5

The median number of partners when the respondent was the active partner, and the half of them reported to have more than four partners. Meanwhile, the median number

of partners when the respondent was the passive partner was four, and 42% of them reported to have more than four partners.

Table 2: Number of partners (by type of partner).

	Tirane N=279		Durrës N=136		Elbasan N=139		Total N=554	
	N	%, (95% CIs)	N	%, (95% CIs)	N	%, (95% CIs)	%	95% CI
Number of man had sex in the last six months respondent is active								
Median	5		4		5		5	
0	49	15.89(11.7,19.9)	20	16.2(8.3,24.1)	19	12.7(7.6,17.7)	15.5	12.0,19.6
1	28	10.8(7.3,14.2)	7	5.4(1.8,9.1)	12	12.3(5.9,18.3)	10.4	7.4,14.2
2-4	54	22.6(19.9,28.4)	42	30.0(22.1,37.9)	33	26.5(17.9,35.1)	24	19.7,29.0
>4	148	50.7(44.4,57.4)	67	48.1(39.4,56.9)	75	48.6(40.8,56.4)	50.1	44.8,55.4
Number of man had sex in the last six months respondent is passive								
Median	3		5		4		4	
0	94	38.1(30.9,45.2)	28	19.2(12.2,26.1)	45	35.09(26.7,43.3)	35.5	30.5,41.0
1	21	8.1(4.6,11.3)	8	5.7(2.0,9.5)	9	7.7(2.4,13.1)	7.9	5.3,11.4
2-4	37	13.6 (9.3,17.9)	28	19.2(12.7,25.6)	19	14.2(8.6,19.8)	14.4	11.0,18.2
>4	127	40.0(34.0,46.1)	72	55.7(47.1,64.5)	66	42.9(34.9,50.9)	42.2	37.1,47.6

More than half (58%) of MSM had anal sex with a commercial male sex partner in the 6 months preceding the survey, ranging from 54% in Tirana to 76% in Elbasan. One-fourth of those who had sex with a commercial partner reported paying a male to have anal sex in the past six months; 28% of MSM in Tirana, 30% in Durrës, and 14% in Elbasan. The majority of them (86%) reported using a condom the last time they bought anal sex from a male partner, and two-third (67%) reported consistent condom use with these partners. Nine in ten MSM (89%) who had sex with a commercial partner, reported being paid by a man to have anal sex in the past 6 months; 88% of MSM in Tirana, 91% in Durrës, and 95% in Elbasan. 80% of them reported using a condom the last time they did sell anal sex to a male partner, and more than half (54%) reported always using a condom reported always using a condom when selling sex to male partners in the past six months.

Table 3: Condom Use with Commercial Male Sex Partners

Tirane N=279			Durrës N=136		Elbasan N=139		Total N=554	
N	%, (95% CIs)		N	%, (95% CIs)	N	%, (95% CIs)	%	95% CIs
Had sex with commercial male sex partner during last 6 months								
157	53.6(46.4,60.7)		94	65.8(57.5,74.1)	110	75.8(67.9,83.6)	57.8	52.3,63.0
Bought (give money, presents) sex in the last 6 months								
45	27.5(19.8,34.4)		33	29.9(20.8,38.2)	16	13.8(7.6,19.8)	27.5	21.2,30.8
Condom use at last time bought sex								
39	84.4(72.8,96.7)		30	89.3(84.3,95.7)	15	94.7(91.7,97.7)	86.4	74.1,93.3
Consistent (100%) condom use with partners bought sex in last 6 months								
29	64.4(50.6,78.3)		24	73.2(59.9,87.0)	10	65.8(42.6,90.7)	67.1	54.0,77.7
Sold (took money, presents) sex in the last 6 months								
141	88.5(82.5,92.8)		86	91.5(85.0,98.3)	109	94.9(90.5,99.2)	89.4	79.1,95.4
Condom use at last time sold sex								
114	79.5(72.1,87.0)		76	98.7(81.0,100.7)	76	69.7(61.1,78.3)	79.3	70.2,87.5
Consistent (100%) condom use with partners sold sex in last 6 months								
79	51.7(43.0,59.9)		57	71.3(59.3,84.4)	56	53.8(44.2,63.4)	57.1	51.7,62.3

Between 40% of MSM in Durrës, Elbasan, and 56% in Tirana had anal sex with a regular partner in the past six months. Two-third (67%) of them reported condom use during last penetrative anal sex with a regular male partner, ranging from 48% in Durrës to 69% in Tirana

and Elbasan. 39% of MSM in all cities, 39% in Tirana, 22% in Durrës and 36% in Elbasan reported always using condoms during anal sex with their regular male partner.

Table 4: Condom Use with Regular Male Partners.

Tirane N=279		Durrës N=136		Elbasan N=139		Total N=554	
N	%, (95% CIs)	N	%, (95% CIs)	N	%, (95% CIs)	%	95% CI
Had sex with regular partner during last 6 months							
142	56.4(48.5,64.3)	56	40.9(32.1,49.6)	54	40.3(33.1,47.4)	52.7	47.3,57.8
Condom use at last time had sex with regular male partner							
97	68.6(61.2,75.4)	23	47.7(31.4,65.5)	36	68.8(59.8,78.1)	66.9	59.1,73.7
Consistent (100%) condom use with regular male partner in last 6 months							
57	39.4(28.8,47.6)	10	22.0(12.0,32.7)	20	36.4(19.3,53.2)	38.6	30.8,46.2

Half (53%) of MSM reported having a non-regular, non-commercial male sex partner in the six months, between half (50%) in Tirana, 55% in Elbasan and 64% in Durrës. Seventy one percent of them reported using a condom during last penetrative anal sex with a non-regular, non-

commercial partner, varying from 64% in Elbasan, 72% in Durrës and 73% in Tirana. Almost half of those having sex with such a partner (48%, 44%, and 50%) respectively in Tirana.

Table 5: Condom Use non-regular, non-commercial Male Sex Partners.

Tirane N=279		Durrës N=136		Elbasan N=139		Total N=554	
N	%, (95% CIs)	N	%, (95% CIs)	N	%, (95% CIs)	%	95% CIs
Had sex with non-regular, non-commercial male sex partner during last 6 months							
153	50.5(44.7,56.3)	84	64.4(56.9,72.0)	75	54.8(46.7,62.7)	52.6	44.6,60.3
Condom use at last time with non-regular, non-commercial male sex partner							
115	71.8(63.2,79.8)	63	73.1(60.1,85.9)	45	63.8(53.9,74.0)	70.9	58.9,74.0
Consistent (100%) condom use among with non-regular, non-commercial male sex partner in last 6 months							
81	48.4(40.3,56.7)	36	44.3(29.6,60.1)	33	49.7(39.0,61.2)	48.4	41.5,55.4

The majority of MSM (82%) know that confidential HIV testing service is available in their area. and more than

half of MSM (52%) report to ever have had and HIV test. The highest percentage of those ever tested is

reported in Tirana 57%, and the lowest in Elbasan 21%. More than half (59%) of MSM tested, reported to have

taken the test in the last 6 months, and the majority 86% taken the HIV test voluntarily.

Table 6: HIV Counseling and Testing.

	Tirane N=279		Durrës N=136		Elbasan N=139		Total N=554	
	N	%, (95% CIs)	N	%, (95% CIs)	N	%, (95% CIs)	%	95% CI
Knowledge about availability of confidential HIV Testing in their area								
	232	85.7(80.3,91.6)	89	65.9(57.5,74.0)	99	75.0(68.4,81.7)	82.3	77.8,86.1
Respondents who have ever had an HIV test								
	154	57(51.8,61.9)	69	53.4(44.1,62.5)	29	21.3(15.8,27.7)	52.0	46.5,57.4
Time of last HIV test								
Last 6 months	94	60.6(51.2,69.4)	38	53.3(41.8,64.5)	16	48.2(18.7,76.0)	59.1	50.1,67.5
7-12 months	27	16.1(9,22.8)	21	32.5(20.8,44.5)	5	16.9(-0.8,34.4)	17.9	12.3,25.5
More than 1 year	33	23.4(16.9,30.5)	10	14.2(4.8,23.3)	8	34.9(14.4,57.0)	22.9	16.1,30.6

Seven percent of MSM reported ever avoiding healthcare because of stigma. 9% in Tirana, 7% in Durrës and 12% in Elbasan reported fear or concern that someone may learn that they have sex with men as a reason for avoiding healthcare. More than half of MSM (57%) were not ashamed to be MSM; in Tirana 58%, Durrës 56%, and in Elbasan 52%. Fifteen percent of MSM, felt excluded from family activities because of being MSM.

Eight percent of MSM in Elbasan, 12% in Tirana and 24% in Durrës have ever been harassed or hurt because of being MSM. Seven percent of MSM report forced sex when they did not want, 19% in Durrës and 9% in Tirana and Elbasan. Among those, one-third thinks the experiences of forced sex were related with the fact they are MSM. Less than two percent of MSM reported ever been arrested because of being MSM.

Table 7: Stigma and discrimination.

	Tirane N=279		Durrës N=136		Elbasan N=139		Total N=554	
	N	%, (95% CIs)	N	%, (95% CIs)	N	%, (95% CIs)	%	95% CIs
Ashamed to be an MSM								
Strongly agree	16	4.7(2.3,7.9)	4	2.2(0.3,4.0)	13	8.8(3.8,13.9)	5.0	3.2,7.6
Agree	39	15.4(11.1,19.6)	18	11.3(5.4,17.1)	28	19.2(13.3,25.1)	15.5	11.9,19.5
Neutral	30	11.5(7.1,15.7)	24	15.7(10.0,21.3)	10	6.0(2.7,9.2)	11.3	8.2,15.3
Disagree	97	35.4(29.2,41.6)	57	39.3(30.4,48.1)	23	15.0(10.0,19.8)	33.3	28.2,38.4
Strongly disagree	70	22.9(17.2,28.6)	20	16.7(7.8,25.5)	49	37.0(29.8,44.4)	24.0	19.7,28.6
No answer	26	9.6(5.8,13.4)	13	14.8(5.0,24.6)	16	13.7(7.4,20.1)	10.7	7.9,14.3
Felt excluded from family activities because of being MSM								
Yes, in the last 6 months	16	4.9(2.7,7.1)	6	4.1(1.2,7.0)	9	5.5(3.1,7.9)	4.9	3.3,7.4
Yes, > than 6 month ago	29	10.4(6.8,13.9)	19	10.6(5.9,15.4)	11	7.6(4.0,11.1)	10.0	7.3,13.6
Avoided seeking health services in the last 12 months because:								
Fear of /concern about stigma	25	6.6(3.9,9.3)	3	1.8(0.0,2.9)	16	11.0(7.1,16.2)	6.7	4.7,9.5
Fear/concern someone may learn you are MSM	29	9.4(5.8,13.3)	13	6.6(3.8,9.4)	17	11.8(7.2,16.3)	9.4	6.8,12.7
Fear of /concern about or experienced violence	14	4.0(2.0,5.9)	4	1.9(0.6,3.2)	11	8.5(3.9,13.8)	4.4	2.8,6.6
Fear of /concern about or experienced police harassment or arrest	3	0.5(0.09,1.5)	0	--	11	6.8(3.2,10.4)	1.3	0.5,2.2
Ever physically harassed or hurt because of being MSM								
	41	12.0(8.2,15.8)	33	24.1(15.6,32.5)	10	7.9(3.6,12.2)	12.9	5.9,24.1
Ever forced you to have any type of sex when you did not want								
	29	8.6(5.8,11.4)	26	19.2(12.7,25.8)	11	9.3(4.5,14.1)	10.9	4.8,20.5
Experiences of forced sex were related with the fact you are MSM								
	14	39.1(25.3,49.4)	4	12.9(1.6,23.6)	3	35.0(6.1,64.5)	33.1	21.0,48.2

DISCUSSION

The population of MSM in Albania is mature in age, educated and single. Most of MSM population are older than 25 years (median age 26), reported having at least a secondary school education and were single. These socio-demographic characteristics of MSM are important for planning targeted HIV prevention programs.

Most MSM have multiple sex partners or concurrent relationships with different partner types including “regular”, “casual”, and “commercial” partners. Consistent condom use with different partners varied from the lowest (38%) with “regular” partners, 48% with “casual”, and 57% with “commercial” partners. Reasons for not using condoms with male sex partners included, reduced pleasure, lack of availability, consider not necessary, and disagreement with partner (partner objected). Tailored HIV/AIDS prevention messages should emphasize the importance of consistent condom use with all partners, especially when concurrency is involved. These programs should provide training on condom negotiating skills.

MSM report commercial and high-risk behavior More than half (58%) of MSM had anal sex with a commercial male sex partner in the 6 months preceding the survey, ranging from 54% in Tirana to 76% in Elbasan. Among those nine in ten MSM (89%) reported being paid by a man to have anal sex in the past 6 months. Risks are particularly high in Elbasan where 95% of MSM received money for sex and almost half of them (43%) never used a condom during these encounters. Additionally, among not using condoms the main reason cited was “partner objected”. HIV prevention interventions targeting sexual risk behaviors related to commercial sex should engage both patrons and sex workers and encourage routine disease screening and consistent condom use. Prevention messages should be tailored and delivered in venues where MSM meet clients for sexual encounters.

MSM reported having a high number of partners where they had active and passive roles during sexual intercourse with male partners. The median number of partners when the respondent was the active partner was five, and the half of them reported to have more than four partners. Meanwhile, the median number of partners when the respondent was the passive partner was four, and 42% of them reported to have more than four partners.

Being the passive partner in anal sexual intercourse has higher risk of HIV transmission than being the active partner. Interventions targeting sexual risk behaviors among MSM should include education about the risks associated with receptive and insertive anal sexual behavior. Widespread access to condoms and lubricants and harm reductions services is needed.

The majority of MSM (82%) know that confidential HIV testing service is available in their area. There is an increase of the number of MSM tested for HIV, with more than half of them 52%) report to ever have had and HIV test. The highest percentage of those ever tested is reported in Tirana 57%, and the lowest in Elbasan 21%. Stigma and discrimination may deter MSM from accessing testing services, even if they are accessible. Efforts to control the spread of HIV among MSM should include the scale up of routine, MSM-friendly HIV testing centers.

Seven percent of MSM reported ever avoiding healthcare because of stigma. 9% in Tirana, 7% in Durres and 12% in Elbasan reported fear or concern that someone may learn that they have sex with men as a reason for avoiding healthcare. More than half of MSM (57%) were not ashamed to be MSM; in Tirana 58%, Durres 56%, and in Elbasan 52%. Fifteen percent of MSM, felt excluded from family activities because of being MSM. Further research is needed to understand the extent of influence of stigma and discrimination to the accessibility of health care services.

CONCLUSION

The combination of HIV related risk factors among MSM population makes it imperative that this group be targeted as part of any HIV prevention strategy. Given the current coverage of HIV prevention activities among MSM, there is a need to strengthen and expand prevention and testing services through innovative approaches. It is important to reach more MSM, and RDS method can be an effective approach to reach those who have not been reached by the traditional approaches.

DECLARATION

Ethic Approval and Consent to Participate

Not applicable

CONSENT FOR PUBLICATION

Not applicable

COMPETING INTEREST

The authors declare that have no competing interest

CONFLICT OF INTEREST

There is no conflict of interest

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AUTHORS’ CONTRIBUTION

RB conceived the study and analyzed the data. AB and RSH contributed to the interpretation of results. RB took the lead in writing of the manuscript. All authors provided critical feedback and helped shape and improve the manuscript. All authors read and approved the final version of the manuscript.

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ABBREVIATIONS

HIV - Human Immunodeficiency Virus

MSM - Men who have sex with men

IBBS - Biological Behavioral Surveillance Surveys

RDS - Respondent Driven Sampling

KPs - key populations

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