Knowledge and associated factors of condom use among MSM; a cross sectional study in Global Fund peer led interventions in Sri Lanka

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Abstract

Introduction: Sri Lanka has a lower prevalence of HIV among MSM (0.9%) in the region. However, the HIV prevalence among MSM has been rising steadily 0.48% in 2009 and 0.9% in 2011. Prevention of HIV transmission through the introduction of "Prevention package" under GFATM round 09 HIV project is one of the main strategies to reduce new infections in the MSM community. Prevention package includes condom awareness and knowledge, condom demonstration and distribution. This project reaches 3203 MSM with the prevention package. Therefore, this study aims to assess the condom knowledge of MSM reached by the peer educators and the factors associated with level of knowledge.

Methodology: Multistage probability sampling technique was used to select a sample of 325 MSM peers who have reached with basic HIV prevention service package were interviewed with a structured and semi structured interview schedule after receiving the oral informed-consent. Descriptive statistical analysis and non-parametric hypothesis testing were performed using the SPSS statistical software.

Results: Sample has an average of 4.2 (SD=8.42) partner changes per month. One third of the sample had over 10 years of MSM behaviours. Around 70% of respondents knew at least five out of eight condom use steps. Partner exchange rate, composite knowledge on HIV and using a condom during the last sex were associated with respondents' knowledge on correct use of condoms.

Conclusions: Although the program has contributed significantly to increase the condom use among MSM population, effectiveness of the condom use is questionable. A comprehensive condom demonstration programme must be incorporated into the HIV prevention programs in more practical manner for effective condom programing.

Key words: correct use of condoms, Men who have sex with Men (MSM), HIV, Sri Lanka

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Full Article

Introduction

Globally, HIV pandemic remains one of the most serious infectious disease challenges to public health. The HIV prevalence in Sri Lanka is less than 0.1% according to the National STD/AIDS Control programme (8). Hence, Sri Lanka has been classified by UNAIDS as a country with a low-level HIV epidemic. HIV prevalence among high risk groups like Men who have Sex with Men (MSM), Female Sex Workers (FSWs), Drug Users (DUs), and Beach Boys (BBs) has not reached 5% and the general population prevalence is less than 0.1%.

The definition used in this survey for MSM is "Men who have had sex with another men in the past six months as a matter of preference or practice, regardless of their sexual identity or sexual orientation, and irrespective of whether they also have sex with women or not".

MSM are disproportionately affected in Sri Lanka by HIV and other sexually transmitted infections including gonorrhoea, syphilis, chlamydia and hepatitis B and C. In several countries in the region, the incidence of these infections has increased among MSM, in some cases markedly, over the last decade. In the recent scattered epidemiological research has identified high HIV prevalence among MSM with varying degrees of study findings and conclusions across countries, India (4.4%), Thailand (7.1%), China (6.7%), Indonesia (8.5%) and Myanmar (8.9%) (2). In comparison, Sri Lanka has a lower prevalence of HIV among MSM (0.9%) in the region (3) . However, MSM population was included as a surveillance group beginning in the 2008 HIV Sentinel Sero-Surveillance Survey (HSS) and HIV prevalence among this group has been rising steadily at close to 0% in 2008, 0.48% in 2009 and 0.9% in 2011 (4). Overall, 11% of the total reported HIV infections are attributable to homosexual transmission in Sri Lanka (4). The current estimation of MSM in Sri Lanka is

7,551 (ranging from 6,547 to 8,554) across 1,438 hot spots (5).

Unprotected anal intercourse (UAI) is the main cause of HIV transmission between gay and bisexual men or MSM. The higher incidence of HIV observed among MSM as compared with heterosexual populations in similar settings is largely due to the higher transmissibility of HIV via anal intercourse (3). Prevention of HIV transmission through correct and consistence use of condoms is the most effective and important prevention strategy for MSM which demands more focus behavioral change interventions (6). However, recent Integrated Biological Behavioral Surveillance survey (IBBS) highlight that, Global AIDS Response Progress Reporting (GARPR) indicators around the biological component are low (aggregate HIV prevalence: <1.0%, and aggregate syphilis prevalence <2.0%) but the behavioral indicators are not performing well with the emphasis on low HIV testing, lack of comprehensive knowledge on HIV and relatively low level of condom use. Just over half (57.9%) of MSM has reported using a condom during the last anal sex with another man (3). This evident that condom usage among this population is moderate but correct use of condoms is further explorative. This study addresses the knowledge gaps of correct use of condoms.

GFATM round 09 Project (2012-2015) is implemented in Sri Lanka for prevention of HIV amongst most at risk populations (MARP) as a part of national HIV prevention program. The project reached 3203 MSM with a basic HIV prevention package through MSM peer educators (PE) by end of 2014. The peer educators are selected from the same community and provided a five-day training workshop which comprehensively encompasses on HIV, Sexually Transmitted Infections (STI), Communication, Peer Education and basic aspects of monitoring and evaluation. The Peer Educators are expected to provide basic package of HIV prevention services to their peers. The basic

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package of HIV prevention services includes creating awareness on HIV and STI, Condom demonstration and distributions, creating awareness through distribution of IEC materials and escorting peers to government STI clinics for additional services such as HIV testing and counselling, treatment for STI (7) . The condom program of the project mainly focuses on comprehensive demonstration and distribution; an average distribution of 15 condoms per MSM per month.   Condom demonstration is elaborated as "A trained peer educator meets one or more of his peers registered in the project, and provides information on importance of condom use and demonstrate following steps of correct use of male condoms.

1. Inspect the condom and expiry date.
2. Tear the condom free edge of package and take out the condom. Ensure that the nails do not cause a tear in the condom.
3. To prevent the condom from bursting, squeeze the tip of the condom to take out the air.
4. While holding onto the tip, unroll the condom down the shaft of the penis all the way to the base of penis.
5. After the sex, slide off the condom from the penis ensuring that the semen collected at the tip does not spill or leak out.
6. Dispose-off the condom in a safe place where it cannot be handled by another person.
7. Wash hands, if semen or vaginal secretions contact on the hand.
8. Use a tissue or a paper to remove the condom to prevent potential contact of vaginal secretions in the hand. It is important but not mandatory to use a dildo to conduct a condom demonstration (8).

The objective of the study was to assess the knowledge of MSM reached by the program (peers) on correct use of condoms for prevention of HIV and associated factors.

Methods

Three hundred and twenty-five (325) MSM peers who have reached with basic HIV prevention service package were selected using a multi-stage probability sampling method. The sample size was calculated using McCallum Layton online sample size calculator (9). The main peer registration database of the GFATM project was used as the sampling frame. This study consists of two components namely; a formal structured interview schedule and a semi structured in-depth interview. First the formal structured interview schedule was administered which consists of demographical characteristics, (age, marital status, level of education, MSM category), composite knowledge on HIV, HIV risk behaviours (number of sexual partners during the last month, duration in MSM behaviour) and safe sex practices (HIV testing, Condom Use). Then a semi structured in-depth interview was conducted with probing questions to assess the respondents' awareness on the eight steps on correct use of condoms. The tool was developed by a multi-disciplinary group of expert consisted of Venereologists, Monitoring and Evaluation experts and experts in sociology and anthropology. By adopting existing guideline developed by UNODC for peer led interventions among drug users (10). The tool was pre-tested with 15 MSM with deferent demographic characteristics and revised accordingly before finalizing it.

The respondents were clearly briefed that the information collected will be treated with utmost confidentiality and will be only used for the research purposes, with anonymity. After taking the respondents oral consent the data was collected and recorded. The interviews were conducted by a team of Monitoring and Evaluation professionals who have field level experience in working with MSM at least three years. The selected peers were reached through their peer educators and field supervisors. The interviews were conducted at their hot-spots or places convenient to them. The enumerators were

conducted re-visits to their hot-spots maximum up to three times, if the selected peer is not available for the interviews at the time of the visit. However, this study was not subjected to an ethical review process, as the field survey was conducted among group of project beneficiaries who are well aware of the project and project activities. Data collected was cleaned and entered in to SPSS statistical software. Descriptive statistical analysis and non-parametric hypothesis tests were performed accordingly.

Results

Sample Characteristics

Two hundred and eighty-one valid responses were received resulting 86 percent response rate. Response rate is somewhat lower than the standard for social surveys due to nature of the target population and difficulties in accessibility. The non-response rate was three times higher in urban areas of Colombo district in comparison to other locations. More than 50 percent of the respondents were recruited from Colombo and Galle districts align with the population coverage of the program. Around one third of the respondents represent rural communities of five selected districts. In the absence of clear demarcation of transgender communities in Sri Lanka, the self-identified "Nachchi" respondents can be considered as a proxy. Around 12 percent of respondents were self-identified them as "Nachchi" which is somewhat lower than the figure reported in Colombo (28 percent), and Anuradhapura (26 percent) districts and higher than Galle (9 percent) in the IBBS survey (3).

Table 1: Sample distribution by district, location and category of MSM

Characteristics		Freq	Percent
District	Anuradhapura	35	12.5%
	Colombo	81	28.8%
	Galle	73	25.9%
	Gampaha	53	18.9%
	Kalutara	39	13.9%
	Subtotal	281	100.0%
Location	Urban	118	41.9%
	Peri Urban	77	27.4%
	Rural	86	30.6%
	Subtotal	281	100.0%
Category	MSM	187	81.7%
	Nachchi	28	12.2%
	MSW	3	1.3%
	MSM Other	11	4.8%
	Subtotal	229	100.0%

Distribution of Socio-demographic characteristics and HIV risk behaviours

The socio-demographic characteristics shows (Table 2) that the mean age of the respondents was 28 years (SD=9.17) ranging from 18 to 81 years. Over half of them (56%) are youth (less than 25 years). Around 70 percent of the respondents were never married and another 5 percent of respondents are living together with another man. The mean number of years of formal education was reported as 11 years (SD=2.94) ranging from no formal education to 21 years of formal education.

An average partner exchange rate was 4.2 males per month (SD=8.42) One third of respondents have been MSM for more than 10 years.

Table 2: Sample characteristics

		Frequency	Percentage
Age (No of years completed)	Less than 25	156	55.5%
	26 to 35	72	25.6%
	36 to 50	43	15.3%
	Above 50	10	3.6%
	Subtotal	281	100.0%
Marital Status	Never Married	194	70.6%
	Married	55	20.0%
	Living together (with a male)	14	5.1%
	Divorced	6	2.2%
	Widow	6	2.2%
	Subtotal	275	100.0%
Formal Education	Year 05 or less	14	5.3%
	Year 05 to GCE O/L	148	56.3%
	GCE A/L	89	33.9%
	Above GCE A/L	12	4.6%
	Subtotal	263	100.0%
Duration of MSM behaviour	Less than 01 Year	16	6.1%
	1 to 5 years	98	37.3%
	6 to 10 years	62	23.6%
	11 to 20 years	71	27.0%
	More than 20 years	16	6.1%
	Subtotal	263	100.0%
No of male sexual partners during the last month	None	66	9.7%
	1 to 3	136	57.1%
	4 to 5	41	17.2%
	5 to 10	21	8.8%
	11 to 30	13	5.46%
	Above 30	4	1.6%
	Subtotal	281	100.0%

Knowledge on condom use steps

In the event of 90 percent of respondents reported using condoms during the last anal sex, it is important to explore whether the use has been correct. Hence, as explained in the methodology, this study gathered information on respondents' awareness on the **eight condom use steps** (table 3)

Table 3: Knowledge on condom use steps

	Correct condom use steps	Steps followed? (N=281)	
		Yes (%)	No (%)
1	Inspection of the condom and expiry date.	167 (59.4)	114 (40.6)
2	Correct tearing & removal without damage	225 (80.1)	56 (19.9)
3	Squeeze the condom tip	216 (76.9)	65 (23.1)
4	Unrolling technique	241 (85.8)	40 (14.2)
5	Removing and Sliding off the condom	227 (80.8)	54 (19.2)
6	Condom disposal method	170 (60.5)	111 (39.5)
7	Wash hands, if semen or secretions contact on hand	190 (67.6)	91 (32.4)
8	Use a tissue or a paper to remove the condom	146 (51.9)	135 (48.0)

Factors associated with knowledge on condom use steps

A scale of 1 to 8 was developed by taking number of steps correctly mentioned by each respondents. The lower scores represent weak knowledge on condom use steps and higher scores represent comprehensive knowledge. The scale shows an acceptable level of internal validity with 0.759 Cronbach's alpha (11).

We found that the number of sexual partners during the last month is positively associated with respondents' level of knowledge on condom wearing steps and safe practices (spearman r= 0.169, p=0.009). More specifically, the respondents who have higher number male sexual partners are likely to compose a better knowledge on condom wearing steps. This can be partially attributed to the effect of current and previous HIV programs which focuses on most at risk populations.

As anticipated, respondents' composite knowledge on HIV prevention is also positively associated with the knowledge on condom wearing steps and safe practices (r= 0.275, p=0.000). Similarly, those who are using condoms are likely to have better knowledge on condom wearing steps than non-users (Chi2 = 12.422, P=0.012). Respondents' age, years of formal education, marital status and number of years in MSM behavior are not significantly associated with knowledge on condom wearing steps and safe practices. Table 4 further demonstrate the factors associated with knowledge on condom wearing steps and safe practices.

Table 4: Factors associated with knowledge on condom wearing steps and safe practices

		Frequencies		Total SCORE _ Awareness on Correct use of Condom				
		# of respondents	% of respondents	Mean	Median	Mean Rank	Spearman Rank Correlation	Kruskal - Wallies Test
Age (No of years)	Less than 25	156	55.5%	5.2	6.0	139.2	r= - 0.015 p=0.800	N/A
	Above 25	125	44.5%	5.4	6.0	143.3		
	Subtotal	281	100.0%	5.3	6.0			
Education (No of years)	Up to year 10	78	29.7%	5.3	6.0		r= 0.045 p=0.464	N/A
	O/L and above	185	70.3%	5.4	6.0			
	Subtotal	263	100.00%	5.4	6.0			
Marital Status	Never Married	194	70.6%	5.3	5.0	137.9	N/A	Chi2 = 2.440 p=0.655
	Married	55	20.0%	5.0	6.0	129.3		
	Living together	14	5.1%	5.9	6.0	157.4		
	Divorced	6	2.2%	5.7	6.0	146.9		
	Widow	6	2.2%	6.2	6.5	167.4		
	Subtotal	275	100.0%	5.3	6.0			
No of Sexual Partners During the last month	None	23	9.7%	5.3	6.0	117.5	r= 0.169** p=0.009	N/A
	1 to 3	136	57.1%	4.9	5.0	109.5		
	4 to 5	41	17.2%	5.8	6.0	135.9		
	5 to 10	21	8.8%	5.9	6.0	134.5		
	11 to 30	13	5.5%	6.2	7.0	149.7		
	Above 30	4	1.7%	5.8	5.5	126.4		
	Subtotal	238	100.0%	5.3	6.0			
No of Years in MSM behavior	Less than 01 Year	16	6.1%	3.3	3.5	74.2	r= 0.094 p=0.129	N/A
	1 to 5 years	98	37.3%	5.5	6.0	138.3		
	6 to 10 years	62	23.6%	5.3	6.0	127.9		
	11 to 20 years	71	27.0%	5.6	6.0	140.4		
	More than 20 years	16	6.1%	5.4	5.5	129.9		
	Subtotal	263	100.0%	5.4	6.00			
Location	Urban	118	41.9%	5.2	5.00	137.4	N/A	Chi2 =3.568 p=0.168
	Peri Urban	77	27.4%	4.9	5.00	131.8		
	Rural	86	30.6%	5.6	6.00	154.2		
	Subtotal	281	100.0%	5.3	6.0			
Used a Condom During the last Sex	No	27	9.8%	4.6	5.0	115.7	N/A	Chi2 = 12.422 p=0.012*
	Yes	248	90.2%	5.4	6.0	140.4		
	Subtotal	275	100.0%	5.3	6.0			
Composite Knowledge on HIV (Total Knowledge Score)	Poor (Score 1-3)	28	9.9%	4.3	4.5	103.7	r= 0.275** p=0.000	N/A
	Average (Score 4-5)	136	48.4%	4.9	5.0	127.5		
	Good (Score 6-7)	117	41.6%	5.9	6.0	165.7		
	Subtotal	281	100.0%	5.3	6.0			

Discussion

The project reached about 42 percent of estimated number of MSM in Sri Lanka (5).

Around 90 percent of responded reported a use of condoms during the last anal sex which is remarkably higher than the population estimates reported in recent IBBS (Colombo-

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64%, Galle-37% and Anuradhapura 55%) (3). However, only around 70% of respondents knew at least five out of eight condom use steps. Although the program has contributed significantly to increase the condom use among MSM population, effectiveness of the condom use is questionable.

Hence, these findings highlight that HIV education and distribution of condom among most at risk populations alone do not enough to handle the issue. A comprehensive condom demonstration programme must be incorporated in to the HIV prevention programs in more practical manner for effective condom programing. Currently, Sri Lanka does not have standard tools and guidelines for condom demonstrations and to measure effectiveness of knowledge transfer. Development and pilot testing of tools and national guidelines on condom demonstration and measuring effective use of condoms are priority areas for further development of condom programing in Sri Lanka. Further, the outreach workers must be trained adequately to conduct comprehensive condom demonstration programs giving equal importance and adequate time to discuss all the steps to promote correct use of condoms.

Conclusion

Although the program has contributed significantly to increase the condom use among MSM population up to 90 percent, effectiveness of the condom use is questionable. A comprehensive condom demonstration programme must be incorporated in to the HIV prevention programs in more practical manner for effective condom programing. Further, HIV prevention program should closely monitor effective use of condoms apart from condom distribution.

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