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## Foreword

Since 1984, when HIV was first detected in Thailand, almost 1.4 million of the estimated 3.5 million people living with HIV in the WHO South-East Asia Region are on HIV treatment as of 2015. From over 200,000 annual AIDS-related deaths at the peak of the epidemic in 2005, mortality is now down to 130,000 annually. Prevention interventions combined with expansion in treatment have led to a decrease in new infections from over 300,000 a year in 2001 to 180,000 in 2015.

Despite low general prevalence, the HIV epidemic in the Region is concentrated among key populations. Of people living with HIV, 99% are found in five member states – India, Indonesia, Myanmar, Nepal and Thailand. While member states in the Region have made progress in the health-sector response to HIV, more needs to be done and at an increased pace if we are to achieve the 2020 target of 90-90-90, that is: 90% of people living with HIV tested; 90% of those identified on treatment; and 90% of those on treatment virally suppressed. Having committed to Sustainable Development Goal target 3.3 of ending AIDS as a public health threat by 2030, this interim 2020 goal is a key milestone. It will require scaling up HIV prevention, testing, treatment and retention in care through innovative service delivery models in partnership with communities and ensuring sustainable financing through inclusive and integrated service provision within the Universal Health Coverage framework, as outlined in the WHO Global Health Sector Strategy 2016–2021.

This supplement, with articles from national HIV programmes, describes the HIV epidemic and response within member states of the Region. I hope that it will provide insights into key issues and challenges on strategies and interventions implemented, lessons learned and actions needing further and urgent attention for policy-makers, governments, development partners and civil society to fast-track the response towards ending AIDS by 2030.



Dr Poonam Khetrpal Singh  
WHO Regional Director for South-East Asia

## Aims and objectives

The aim of this journal is to provide a specialist, open access forum and fast-track pathway to publish work in the rapidly developing field of virus eradication, particularly of HIV, HBV and HCV. The Journal has been set up especially for these and other viruses, including herpes and flu, in a context of new therapeutic strategies, as well as societal eradication of viral infections with preventive interventions.

## Scope

The Journal not only publishes original research, but also provides an opportunity for opinions, reviews, case studies and comments on the published literature. It focuses on evidence-based medicine as the major thrust in the successful management of HIV and AIDS, HBV and HCV as well as includes relevant work for other viral infections. The Journal encompasses virological, immunological, epidemiological, modelling, pharmacological, pre-clinical and *in vitro*, as well as clinical, data including but not limited to drugs, immunotherapy and gene therapy. It will be an important source of information on the development of vaccine programmes and preventative measures aimed at virus eradication.

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# Factors associated with clinic escorts in peer-led HIV prevention interventions for men who have sex with men (MSM) in Sri Lanka

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## Abstract

**Background:** Sri Lanka has recently completed an HIV prevention project for most-at-risk populations (MARPs) under the Global Fund. The intervention includes delivery of a HIV prevention package (HPP) to men who have sex with men (MSM) that includes provision of: (1) knowledge about sexually transmitted infections (STI); (2) HIV knowledge; (3) MSM-tailored leaflets; (4) condom/dildo demonstration; (5) provision of condoms; and (6) clinic escorts. MSM who received services 1–5 in the HPP are defined as ‘reached’. The final step is to escort the reached MSM to an STI clinic, and they are then defined as ‘escorted’. This HPP was delivered to MSM through peer educators (PE) scattered in four highly populated districts in the country. Each PE has contact with another 15 peers forming a peer group (PG). However, in this model, a significant number of MSM do not take up the escorting step of the HPP. Therefore, the purpose of this paper is to analyse the factors associated with clinic escorts among MSM peers in the HIV prevention project.

**Methods:** All the MSM peers (699 MSM) registered and retained during the project period had been reached in 2013, 2014 and 2015 and were chosen from the web-based Monitoring and Evaluation information management system (MEIMS) for analysis. The sample was divided into two groups based on escort status (escorted peers vs non-escorted peers). Variables were compared between the two groups for the hypothesis of difference to identify significant factors associated with clinic escorts.

**Results:** The study sample (699 MSM) represented four districts: Galle (37%), Colombo (35%), Gampaha (14%) and Kalutara (14%). Escort status depended on the district ( $P<0.001$ ), age group of MSM ( $P=0.008$ ), level of education ( $P=0.007$ ) and urban/rural status ( $P<0.001$ ), duration of MSM behaviour ( $P=0.018$ ), experience of an HIV test during previous 12 months ( $P=0.050$ ), and recent receptive anal sex ( $P=0.050$ ).

**Conclusions:** Older MSM (>25 years), MSM living in urban and semi-urban areas, *Nachchi* MSM (effeminate males), MSM with receptive behaviours as well as less-educated MSM were less likely to be escorted and needed some extra effort to improve escort rate among MSM. In addition, performance of PEs, field supervisors and coordinators was observed to be a major factor in improving escort rate.

Keywords: Men who have sex with men, MSM, HIV, escorts, peer education, Sri Lanka

## Introduction

Sri Lanka has been categorised as a country with a low-level HIV epidemic because HIV prevalence has not consistently exceeded 5% in any of the high-risk sub-populations such as female sex workers (FSW), men who have sex with men (MSM), beach boys (BB) and people who inject drugs (PWID) [1]. However, at the end of 2015, a cumulative total of 2308 HIV-positive persons have been reported to the National STD/AIDS Control Programme (NSACP), Ministry of Health, Sri Lanka [2]. During 2015, the highest number of total cases (235) in a year was reported to the NSACP. In general, an estimated 10.5 new infections occur per week, while only approximately 4.5 new cases are reported to the NSACP per week [2].

Analysis of reported HIV cases to the NSACP during the last 5 years (2011–2015), showed that heterosexual and homosexual behaviour was the main mode of HIV transmission in the country. However, the relative proportion of HIV transmission through heterosexual behaviour reduced from 74% (2011) to 54% (2015) while the proportion of transmission via male-to-male sex increased from 20% (2011) to 41% (2016). Mother-to-child transmission remained between 3% and 7% over the same period. Injecting drug use as a mode of transmission was reported in less than 2.5% of cases. However, transmission via blood and blood products has

not been identified as a method of transmission since 2004 [2]. Therefore, the most relevant risk behaviours and key populations being considered are those associated with the main routes of HIV transmission, such as unprotected vaginal and anal sex and the use of non-sterile needles or materials [3].

Sri Lanka has identified different high-risk sub-populations for HIV prevention interventions such as FSW, MSM, beach boys (BB; a group of men who associate with tourists as guides or ‘animators’, and provide entertainment including sexual services, the majority of whom are bisexuals), clients of sex workers and people who inject drugs (PWID) as most-at-risk populations (MARPs) [4]. The mapping and size estimation study carried out in 2013 provided estimates of 14,132 FSW, 7551 MSM, 1314 BBs, and 17,459 PWID in the country [5]. HIV prevalence estimation carried out in the Integrated Biological and Behavioural Survey (IBBS) showed that HIV prevalence among FSW and MSM was 0.8% and 0.9%, respectively while among PWID and BB, the HIV prevalence was 0% [6].

Sri Lanka has completed a 5-year HIV activity plan under the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) at the end of 2015, which is currently being continued, with another 3-year activity plan under the GFATM New Funding Model (2016–2018)[2]. Currently, the Family Planning Association, as the non-governmental principal recipient of the GFATM grant, is carrying out HIV prevention interventions for the most-at-risk populations (FSWs, MSM, BBs and PWIDs). The main intervention is through a peer-group model. Under this model, peer educators, who are persons identified as having knowledge and leadership

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**Table 1.** Number and percentage of MSM escorted from 2013 to 2015 in comparison to number of MSM reached with the HIV prevention package (HPP)

Year	Number of MSM Reached with HPP	Number of MSM escorted to STI clinics	Percentage of MSM escorted
2013	2127	496	23%
2014	2980	969	33%
2015	3638	1416	39%

Source: Annual Progress Report of the Primary Recipient 2 (PR2), Global Fund HIV Prevention Project (Round 09 Grant-Phase 2).

qualities, are trained and a monthly allowance is given to maintain a peer group of about 15 peers under the guidance of field supervisors and coordinators for different MARPs. This article examines the MSM peer model, which provides an HIV prevention package (HPP) for MSM that includes six items:

1. Provision of knowledge about sexually transmitted infections (STIs);
2. Provision of HIV knowledge;
3. Provision of MSM-tailored leaflets;
4. Condom/dildo demonstration;
5. Provision of condoms;
6. Escorting of peers to an STI clinic for HIV testing.

Peers are referred to as 'reached' if the first five services are delivered (reached peers). Once the reached peers are escorted to an STI clinic they are referred as 'escorted' (escorted peers) [7].

Although escorting of MSM to the government STI clinic for HIV testing and counselling is one of the important aspects of the HIV prevention package, the percentage of MSM escorted remained at 23–39% during the past 3 years (2013–2015). Table 1 describes the number and percentage of MSM escorted from 2013 to 2015 against the number of MSM reached with HPP [8].

The details of MSM who have been reached with the HPP regularly but who failed to be escorted during 3 consecutive years needs to be examined to take programmatic decisions.

The purpose of this paper is to analyse the MSM peer cohort in order to examine the factors associated with clinic escorts (HIV testing) in peer-led HIV prevention interventions for MSM in Sri Lanka.

## Methods

Web-based monitoring and evaluation information management systems (MEIMS) maintained at the Family Planning Association of Sri Lanka (FPA) are the main databases for the peer-led project and which have capacity for data filtering and export. Data for the MEIMS are entered by the project coordinators of the community-based organisation (CBO), at the district level, using peer calendars of the peer educator. A peer calendar is a sheet of paper with peer names, peer visit date and the service code of the HIV prevention package. These data are secondarily verified by the monitoring and evaluation staff at the project for quality. Furthermore, re-checking of peer calendars and on-site data verifications are carried out by the monitoring and evaluation staff to improve data quality.

The MEIMS maintain the peer cohorts from the time of peer registration with follow up data entry during the project period (from 2013 to end 2015). The system is updated by the CBOs at the district level two times per month. The clinic escort data are verified and entered in the MEIMS at the Family Planning Association using the escort slips issued by the respective STI clinics [7].

Details of a total of 714 MSM peers (including peer educators) registered and retained in the service during the project period (reached during 3 consecutive years 2013–2015) were filtered and exported to an Excel work sheet and then to SPSS v20 for further analysis. Fifteen records were excluded from the analysis due to data quality issues. A total of 699 MSM were considered in the final analysis.

All the categorical data were analysed to generate frequency and percentages while numerical data were analysed to present central tendency and dispersion. Both categorical and numerical variables were compared between the group of 'reached but not escorted peers' and the group of 'reached and escorted peers' (escorted to the STI clinic for HIV testing) to identify whether the variables are dependent at the level of significance of  $P=0.05$  using chi-square tests for categorical data and using Mann–Whitney U tests for numerical data.

**Table 2.** Distribution of sample characteristics

Variable	Levels	Frequency	Percentage	Cumulative percentage
<b>District</b>	Colombo	247	35%	35%
	Gampaha	98	14%	49%
	Kalutara	97	14%	63%
	Galle	257	37%	100%
	<b>Total</b>	<b>699</b>	<b>100%</b>	
<b>Location</b>	Urban	304	43%	43%
	Semi-urban	184	26%	70%
	Rural	211	30%	100%
	<b>Total</b>	<b>699</b>	<b>100%</b>	
<b>Age</b>	<25	335	48%	48%
	≥25	364	52%	100%
	<b>Total</b>	<b>699</b>	<b>100%</b>	
<b>Marital status</b>	Married	125	18%	18%
	Unmarried	514	74%	92%
	Living together	32	5%	96%
	Divorced	17	2%	99%
	Widow	9	1%	100%
	<b>Total</b>	<b>697</b>	<b>100%</b>	
<b>Level of school education</b>	Up to Grade 8	98	14%	14%
	Up to GCE O/L	361	52%	66%
	Up to GCE A/L	205	29%	95%
	Above GCE A/L	32	5%	100%
	<b>Total</b>	<b>696</b>	<b>100%</b>	
<b>Duration in MSM behaviour (No. of years)</b>	<5	173	25%	25%
	5–10 years	252	36%	61%
	10–20 years	228	33%	94%
	>20 years	43	6%	100%
	<b>Total</b>	<b>696</b>	<b>100%</b>	

## Results

### Background information

A total of 699 MSM peers retained in the service during the project period (2013–2015) were filtered for the analysis and sample characteristics are shown in Table 2.

### Comparison of district-level programme implementation

District variation among the non-escorted group and the escorted group are significant (dependent) and showing high escort rates in Galle and Gampaha (Table 3).

### Comparison of socio-demographic factors among non-escorted group and escorted groups

Young MSM (<25 years) were more likely to have an HIV test during the project ( $P<0.05$ ). Escort status also depended on the level of education ( $P<0.05$ ). Those who were educated up to GCE/O level and above were more likely to be escorted for an HIV test. Rural-living MSM (79%) were also more likely to be escorted for an HIV test than semi-urban (74%) and urban MSM (69%). However, marital status and escort status were independent variables and no significant difference was observed. *Nachchi* MSM (effeminate males) were less likely to be escorted for HIV testing than the other MSM. This may be due to high levels of stigma from society towards *Nachchi* people (Table 4).

### Comparison of behavioural factors between the non-escorted group and the escorted group

Duration of MSM behaviour, uptake of an HIV test during the previous 12 months (at the time of registration) and number of occasions of receptive anal sex during the previous week were dependent on escort status. MSM with a short duration of risk behaviour (<5 years) and relatively longer duration of risk behaviours (>20 years) were more likely to be escorted for an HIV test. In addition, those with a high frequency of insertive sexual encounters (>10 per week) were also more likely to be escorted. Experience of an HIV test during the previous 12 months seemed to reduce the willingness to be escorted (Table 5).

## Discussion

The peer-led HIV prevention intervention project paid a monthly allowance and trained peer educators (PE). Each PE had to maintain contact with another 15 MSM and provide the components of the HPP. There were 248 MSM peer groups scattered in four major districts (Colombo, Gampaha, Kalutara and Galle) covering 3638 MSM. Analysis and comparison of the non-escorted and escorted groups for the hypothesis of difference shows that young MSM (<25 years), rural MSM, educated MSM as well as MSM with shorter duration of risk behaviours (<5 years) and longer duration of risk behaviours (>20 years) were more likely to be escorted to an STI clinic for an HIV test. However, for older MSM ( $\geq 25$  years) and MSM living in urban and

**Table 3.** Comparison of district level programme implementation

Variable	Variable values	Non-escorted		Escorted		Total	Chi-squared test	Mann-Whitney U test
		N	%	N	%			
District	Galle	51	20%	206	80%	257	$\chi^2=23.118$ $P=0.000^*$	N/A
	Colombo	91	37%	156	63%	247		
	Gampaha	22	22%	76	78%	98		
	Kalutara	36	37%	61	63%	97		
<b>Subtotal</b>		<b>200</b>	<b>29%</b>	<b>499</b>	<b>71%</b>	<b>699</b>		

\* Statistically significant at 99% confidence interval.

semi-urban areas as well as less educated MSM, there needs to be more emphasis about the importance of attending the STI clinic for HIV testing and different innovative strategies need to be adopted to increase the rate of HIV testing among those groups. One of the important findings is that *Nachchi* MSM, which includes male sex workers (MSW), are less likely to be escorted for HIV testing than other MSM. The reason may be due to the high stigma prevalent in the society towards *Nachchi* MSM and MSW. Therefore, this warrants special strategies for *Nachchi* people (especially MSW) to be escorted for an HIV test. MSM with frequent insertive behaviours (>10 per week) are more likely to be escorted and attend for testing. This may be due to relatively less stigma among insertive partners. Experience of an HIV test during the previous 12 months seems to reduce the uptake of an HIV test. In addition, it has been observed that district variation of escort rates are also largely dependent on the district level implementation (CBO), performance of PE, field supervisors and coordinators who can overcome some of the difficulties found.

**Table 4.** Comparison of socio-demographic factors among non-escorted and escorted groups

Variable	Variable values	Non-escorted		Escorted		Total	Chi-squared test	Mann-Whitney U test
		N	%	N	%			
Age category	<25	80	24%	255	76%	335	$\chi^2=7.051$ $P=0.008^*$	$Z=-3.334$ $P=0.001^*$
	$\geq 25$	120	33%	244	67%	364		
	<b>Subtotal</b>	<b>200</b>	<b>29%</b>	<b>499</b>	<b>71%</b>	<b>699</b>		
Marital status	Ever married	46	30%	105	70%	151	$\chi^2=0.346$ $P=0.557$	N/A
	Other	153	28%	393	72%	546		
	<b>Subtotal</b>	<b>199</b>	<b>29%</b>	<b>498</b>	<b>71%</b>	<b>697</b>		
Level of education	Up to year 08	37	38%	61	62%	98	$\chi^2=12.098$ $P=0.007^*$	$Z=-0.222$ $P=0.824$
	Up to GCE O/L	84	23%	277	77%	361		
	Up to GCE A/L	70	34%	135	66%	205		
	Above GCE A/L	9	28%	23	72%	32		
	<b>Subtotal</b>	<b>200</b>	<b>29%</b>	<b>496</b>	<b>71%</b>	<b>696</b>		
MSM category	<i>Nachchi</i>	32	40%	48	60%	80	$\chi^2=7.536$ $P=0.057$	N/A
	MSM	125	26%	362	74%	487		
	MSW	3	20%	12	80%	15		
	MSM/Other	7	29%	17	71%	24		
	<b>Subtotal</b>	<b>167</b>	<b>28%</b>	<b>439</b>	<b>72%</b>	<b>606</b>		
Location	Rural	44	21%	167	79%	211	$\chi^2=15.928$ $P=0.000^*$	N/A
	Semi urban	46	25%	138	75%	184		
	Urban	110	36%	194	64%	304		
	<b>Subtotal</b>	<b>200</b>	<b>29%</b>	<b>499</b>	<b>71%</b>	<b>699</b>		

GCE: General Certificate of Education; O/L: Ordinary level; A/L: Advanced level; MSM=men who have sex with men.

\* Statistically significant at 99% confidence interval.

**Table 5.** Comparison of behavioural factors between the non-escorted group and the escorted group

Variable	Variable values	Non-escorted		Escorted		Total	Chi-squared test	Mann-Whitney U test
		N	%	N	%			
Duration of MSM risk behaviour	<5 years	38	22%	135	78%	173	$\chi^2=10.126$ $P=0.018^*$	$Z=-2.741$ $P=0.006^*$
	5–10 years	69	27%	183	73%	252		
	10–20 years	82	36%	146	64%	228		
	>20 years	11	26%	32	74%	43		
	<b>Subtotal</b>	<b>200</b>	<b>29%</b>	<b>496</b>	<b>71%</b>	<b>696</b>		
Used condoms at last sex with male	No	138	27%	369	73%	507	$\chi^2=2.097$ $P=0.148$	N/A
	Yes	62	33%	127	67%	189		
	<b>Subtotal</b>	<b>200</b>	<b>29%</b>	<b>496</b>	<b>71%</b>	<b>696</b>		
Test for HIV during past 12 months?	No	172	28%	451	72%	623	$\chi^2=3.686$ $P=0.050^*$	N/A
	Yes	28	38%	45	62%	73		
	<b>Subtotal</b>	<b>200</b>	<b>29%</b>	<b>496</b>	<b>71%</b>	<b>696</b>		
Number of receptive anal sex during the last week	1–6	64	28%	162	72%	226	$\chi^2=5.351$ $P=0.069$	N/A
	7–10	34	40%	51	60%	85		
	More than 10	26	39%	40	61%	66		
	<b>Subtotal</b>	<b>124</b>	<b>33%</b>	<b>253</b>	<b>67%</b>	<b>377</b>		
Number of insertive anal sex during the last week	1–6	94	28%	244	72%	338	$\chi^2=5.952$ $P=0.050^*$	N/A
	7–10	42	34%	82	66%	124		
	More than 10	8	16%	43	84%	51		
	<b>Subtotal</b>	<b>144</b>	<b>28%</b>	<b>369</b>	<b>72%</b>	<b>513</b>		

\* Statistically significant at 95% confidence interval.

## Conclusion

Escort status of MSM is dependent on number of factors. Older MSM ( $\geq 25$  years), MSM living in urban and semi-urban areas, *Nachchi* MSM (effeminate males), MSM with receptive behaviours as well as less educated MSM require more emphasis on the importance of attending for testing to improve escorting rates among MSM in the project. It has been observed that the variation in escort rates in different districts is also dependent on the ability of the PE, field supervisors and coordinators who can overcome factors affecting escorts.

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## Conflict of interests

There are no conflicts of interest.

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