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HIV Sentinel Surveillance Survey 2019/ Prevalence and characteristics of HIV cases in Sri Lanka; experience from sentinel site surveillance 2019

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Abstract

Introduction: Sri Lanka remains a low-prevalent country for HIV/ AIDS over last few decades, according to the reported cases to the National STD and AIDS Control Programme. Even among high risk population groups, the HIV prevalence remains low. It is very important to monitor HIV prevalence trends among these population groups as risk behaviours are changing and HIV prevalence might rise in escalating levels needing urgent action.

Objective: The objective of the survey is to assess the prevalence of HIV infection among the subpopulation groups at risk for HIV infection and to monitor the trends of the HIV epidemic.

Method: As a regular process, 14th round of HIV sentinel surveillance survey was conducted during the period of 3 months starting from 01st October to 31st December 2019. A survey protocol was developed in 2019 including same sentinel sites, modified sentinel groups and testing algorithms. The nine provinces of the country were identified as 9 sentinel sites and sentinel groups include Men who have sex with men (MSM), female sex workers (FSW), Clients of sex workers, Transgender women and people who inject drugs (PWID).

Results: Prevalence of HIV was highest among MSM (1.46%) followed by transgender women (1.35%) and clients of sex workers (0.09%). The prevalence among FSW was 0.07%, and there were no HIV positives among the 70 PWID enrolled in the study.

Conclusions: MSMs appears to be the highest risk group for contracting HIV and active syphilis in Sri Lanka. This trend should be taken into account when planning interventions to achieve programme objectives.

Key words: HIV prevalence, sentinel surveillance, Sri Lanka

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Full article

Introduction

Sri Lanka remains a low-prevalent country for HIV/ AIDS ever since the first case of HIV was detected way back in 1986. (1, 2) The national prevalence remains below 0.1%, according to the reported cases to the National STD and AIDS Control Programme (NSACP). (3) Even among the high risk population groups, the HIV prevalence remains very low. However, perusal of data reported to the NSACP does not warrant complacency as it highlights the possible challenges in achieving the treatment target of 95-95-95 and the goal of ending AIDS by 2025.

According to the estimates and reported cases of HIV, it appears that the case detection needs to be strengthened. Even though the number of new cases reported during a year is stagnating, the high risk groups out of which the new cases arise is changing.
The proportion of MSM/bisexual men among the people living with HIV (PLHIV) has been in the rise since 2010, and the female dominant HIV epidemic in early years has been transformed into a male dominant one during last few years. Further, the proportion of young people (15-24) contracting HIV has remained somewhat static, around 10%, since the last eight years. Perusal of the geographic distribution of cases show that most cases are concentrated in the Western province. (4) It is important to continuously study the incidence and characteristics of new cases, as this provides the basic information for planning all HIV preventive activities.

In this backdrop, the NSACP is performing HIV sentinel surveillance as an ongoing activity. This was initiated in 1990 among antenatal clinic mothers, FSWs, STD clinic attendees and TB patients, prisoners, blood donors, service personnel and pre-employment recruits. Based on the evidence of reported cases over the years, MSM and drug users (DUs) added as sentinel groups in 2008. In 2016, IV drug users (IVDUs) and clients of FSWs were added as sentinel groups, and TB patients and ANC - mothers were dropped as sentinel groups as universal HIV screening is done among them. The surveillance method is based on the guidance given by the WHO and other evidence at international level. (5,6,7,8, 9)
These surveys were supplemented by a series of Behavioural Surveillance Surveys that took place since 2007. First Behavioural Surveillance Survey was conducted in 2007, and the first round of IBBS Survey was conducted in 2014 followed by the second round in 2017/18.

HIV sentinel surveillance survey (HIV-SS) is carried out annually as repeated cross-sectional sero-surveys among selected population groups at selected geographical locations. These population groups are called “sentinel groups” while selected locations are known as “sentinel sites”. One sentinel site usually consists of several data collection centres. Decision of what groups to be considered as sentinel groups are decided by experts in the NSACP, based on epidemiological characteristics of reported cases over recent years.

Being a low-prevalent country for HIV, it is of extreme importance to continue HIV sentinel surveillance as it provides a reliable estimate of the disease among high risk groups. As community based surveys would not have adequate yield and therefore not cost-effective, this is the most feasible approach to study the prevalence of HIV among Sri Lankan population. Furthermore, it provides an opportunity to screen for other common STIs, again having low prevalence in this setting.

Objectives

The objective of the survey is to assess the prevalence of HIV infection among the subpopulation groups at risk for HIV infection and to monitor the trends of the HIV epidemic.

Methods

A cross-sectional sero-survey as a part of the series of regular surveys was conducted among selected population groups at selected geographical locations. STD clinic attendees belonging to the defined risk categories

comprised the study population. These population groups or "sentinel groups" were defined based on their risk behaviour as female sex workers (FSWs), clients of female sex workers (clients of FSW), people who inject drugs (PWID), men having sex with men (MSMs) and transgender women (TGW). Operational definitions were developed for each sentinel group.

All 9 provinces were identified as "sentinel sites". One sentinel site usually consisted of several data collection centres which were sample collecting centres (STD clinics). Except for the TGW group, those who were above the age of 18 years were included into the study whereas there was no age restriction for TGW group. Consecutive sampling of those individuals meeting the inclusion criteria were enrolled into the study. Data of selected participants were extracted to a data collection format from the clinic records, which included their age, sex and risk category. Results of blood tests were recorded when they were tested at the local/ central STD clinic and recorded. Data collection was performed by the STD clinic staff of each clinic. All serological tests have been performed using WHO approved test kits, by trained laboratory personnel either in the National Reference Laboratory or in peripheral STD clinic laboratories.

Data analysis was performed using Microsoft excel.

Results

Profile of the sample

A total of 3554 individuals were enrolled from the five defined sentinel groups for the HIV-SS 2019. In table 1, the number enrolled from each sentinel site are presented under each sentinel group.

The participants' age was between 18 and 77 years. The MSMs had the lowest mean age (29.9 years). The mean ages of clients of FSWs and PWIDs were 32.3 and 30.9 years respectively. The mean age of FSWs and TGWs were over 36 years.

A total of 15 HIV positive cases were identified through HIV-SSS 2019, out of which 12 were MSMs. The other 3 were one each from FSWs, clients of FSWs and TGWs. The prevalence rates are presented in Table 3. The highest HIV prevalence was seen among MSM which was 1.46%. Female sex workers and clients of female sex workers have shown a low prevalence which was below 0.1%. The prevalence rate among TGWs have become 1.35%, as the denominator is made up of only 74 individuals.

Out of the 15 reported HIV positive cases in HIV SSS 2019, 10 were from the Western Province (66.7%) out of which 8 were MSMs. Another 3 were from the North Western province (20.0%) and all of them were MSMs. Central and Southern Provinces reported one case from each.

Table 1: Enrolled participants for the HIV sentinel surveillance survey 2019 according to sentinel site

Province	Sentinel group					Total
	MSM	Clients	FSW	TGW	PWID	
Western	310	188	342	54	20	914
Central	118	77	175	0	0	370
Southern	194	220	257	0	50	721
North Western	129	44	179	0	0	352
North Central	0	212	273	0	0	485
Sabaragamuwa	0	109	105	0	0	214
Eastern	13	122	114	0	0	249
Northern	56	18	3	20	0	97
Uva	5	114	33	0	0	152
Total	825	1104	1481	74	70	3554

Table 2: Summary results of HIV sentinel surveillance survey 2019

Sentinel group	No. tested for HIV	No. positive	HIV prevalence
Female sex workers	1,466	1	0.07%
Men who have sex with men	822	12	1.46%
Clients of sex workers	1,097	1	0.09%
People who inject drugs	70	0	0.00%
Transgender women	74	1	1.35%
Total	3,529	15	0.43%

In addition to HIV, patients presenting to STD clinics, including those who belong to the sentinel groups are routinely tested for Hepatitis B, Hepatitis C and syphilis if they have risk factors. This procedure may vary depending on logistic issues, however, in most places, this screening is taking place. As many individuals remain asymptomatic in initial stages of these diseases, screening them is important not only for the programme to identify the disease burden, but also for the patients to get an early diagnosis and treatment, which may help to minimize potential complications.

The prevalence of all forms of syphilis (both active and inactive) were tested among 3250 participants of the sentinel surveillance, and the numbers positive and the prevalence rate in each group are shown in Table 3. The prevalence rate highest among transgender women (13.33%) which was performed on a small sample, followed by MSM (3.21%) and people who inject drugs (2.86%).

Table 4 shows the prevalence of active syphilis. Those who had a VDRL titre of ≥ 1:8 were considered as a proxy for active syphilis infection. Active syphilis was seen only among MSM (0.53%) and clients of female sex workers (0.29%) in the sentinel surveillance, and was not found among female sex workers, people who inject drugs or transgender women.

Table 3: Summary results of sentinel surveillance survey 2019 – Ever infected with syphilis

Sentinel group	No. tested for TPPA	No. positive	All syphilis prevalence
Female sex workers	1361	24	1.76%
Men who have sex with men	748	24	3.21%
Clients of sex workers	1026	16	1.56%
People who inject drugs	70	2	2.86%
Transgender women	45	6	13.33%
Total	3250	72	2.22%

Table 4: Summary results of sentinel surveillance survey 2019 – Active syphilis (VDRL ≥ 1:8)

Sentinel group	No. tested VDRL titre	No. with VDRL titre ≥ 1:8	Active syphilis prevalence
Female sex workers	1,361	0	0.00%
Men who have sex with men	748	4	0.53%
Clients of sex workers	1,026	3	0.29%
People who inject drugs	70	0	0.00%
Transgender women	45	0	0.00%
Total	3,250	7	0.22%

Even though it was originally planned to enrol 2400 FSWs, 2400 clients of FSWs, 1250 MSMs, 250 PWIDs and 500 TGWs, only 1466 FSWs, 1097 clients of FSWs, 822 MSMs, 70 PWIDs and 74 TGWs were enrolled during the stipulated study period. It was observed that the expected sample sizes of most categories of sentinel groups were met only in the Western province. The reason for not meeting the expected sample size was that there were no clinic attendees belonging to defined risk categories during study period. Further, out of

the 15 HIV positive cases, 10 were from the Western Province. As other provinces have a very small number or no cases of HIV over the years, the trends of HIV positive rates were analysed for the Western province, because including other districts make it difficult to visualize the disease pattern.

An increasing trend of prevalence of HIV infection was observed among MSMs in the Western province. Among FSWs in the Western Province, the trend seems to stagnate, and perusal of numbers showed that in 2003, 2004, 2006, 2011 and 2019, one FSW each were positive out of those enrolled for the HIV SSS.

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Figure 1- Trend of HIV prevalence among MSMs

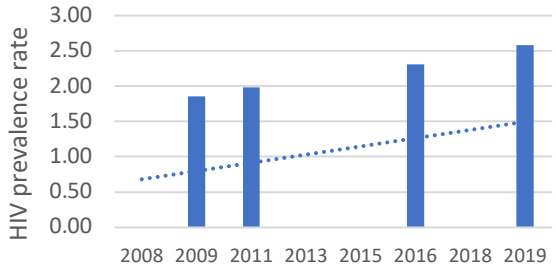
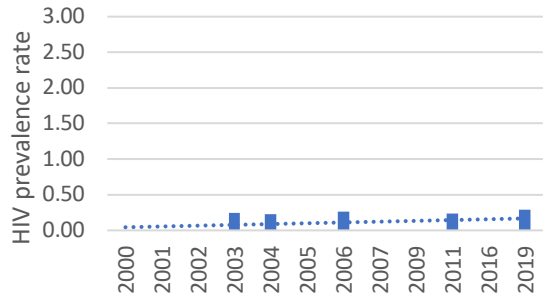


Figure 2 - Trend of HIV prevalence among FSWs



Discussion

According to 2019 HIV sentinel surveillance, MSM had highest HIV prevalence (1.46%). Even though this is a low prevalence rate for a high-risk population group according to the WHO definition, this is a high prevalence rate for Sri Lankan setting. Out of the 15 reported HIV positive cases in the survey, 12 (80%) were MSMs. As there were only 70 TGWs enrolled to the study and one person became positive, the prevalence was 1.35%. The small denominator made the prevalence rate look greater among TGWs. Perusal of numbers of cases reported shows that, one each from TGW, clients of FSWs and FSWs were HIV positive. This is extremely important, particularly for the programme which is aiming at the goal of ending AIDS in 2025. Unless the programme targets the specific groups who are at higher risk, the interventions tend to have lower yield. Therefore, this emphasizes the fact that MSMs need to be targeted more for intensive interventions, while maintaining focus on other sentinel groups.

Constantly low prevalence of HIV among FSWs can be attributed to consistent and increased usage of condoms with the commercial partners.

The highest number of cases were reported from the Western province (n=10, 66.7%). This is to be anticipated as Western province has the highest population density, and the Central clinic has the highest number of clinic attendees. However, this needs to be interpreted with caution due to the fact that Western Province has a diverse groups of people temporarily residing in the province due to employment and education purposes. Further, due to the nature of the health system in Sri Lanka, people can go to a clinic in any location they wish. Therefore, particularly when they want to visit a STD clinic which has more stigma and discrimination, they may visit a clinic outside their resident area. While appreciating the fact that most HIV cases are clustered within the Western Province, it should be noted that the exact geographic distribution of cases should be understood with additional information. Three MSMs in the North Western Province have become HIV positive. This is an important finding, and warrants further investigations as to find any epidemiological links among them, and for primary and secondary preventive activities.

Even though it was originally planned to enrol 2400 FSWs, 2400 clients of FSWs, 1250 MSMs, 250 PWIDs and 500 TGWs, only 1466 FSWs, 1097 clients of FSWs, 822 MSMs, 70 PWIDs and 74 TGWs were enrolled during the stipulated study period. A majority of the sample was constituting of people from the Western

Province. The reason for not meeting the expected sample size was that there were no clinic attendees belonging to defined risk categories during study period. Considering the contribution of each sentinel site, it would be cost effective to limit the HIV HSS to sites with higher yield.

Conclusions

HIV sentinel surveillance survey covered five sentinel groups, i.e., Men who have sex with men (MSM), female sex workers (FSW), Clients of sex workers, Transgender women (TGWs) and people who inject drugs (PWID). It was noted that the number of samples collected from TGWs and PWIDs were very small.

According to the findings of the sentinel surveillance survey 2019, Men who have sex with men (MSM) is the key population group with highest HIV prevalence (1.46%) and active syphilis prevalence (0.53%), and their overall syphilis prevalence also remains high (3.21%).

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