

HIV-related services for men who have sex with men in Cuba in the context of COVID-19 epidemic

Servicios relacionados con el VIH para hombres que tienen relaciones sexuales con hombres en el contexto de la epidemia de COVID-19 en Cuba

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ABSTRACT

Introduction: The COVID-19 pandemic has had a major impact on the provision of HIV services to key populations.

Objective: To explore the impact of COVID-19 on HIV-related services for men who have sex with men (MSM) in Cuba during the first year of the epidemic.

Methods: A cross-sectional study was conducted to compare the provision of selected services between 2019 (pre-epidemic stage) and 2020 (limited autochthonous transmission, and epidemic stages). The data were extracted from two national databases in Cuba. The frequency of care by type of service was calculated on a quarterly basis in 2019 and 2020. Statistical tests were performed to determine the differences between each indicator.

Results: A significant reduction in reach with the minimum HIV prevention and testing package was found in 2020 compared to 2019, especially in the second quarter of 2020 (decrease from 15.9% to 9.6% $p < 0.001$; and from 11.0% to 6.5% $p < 0.001$), which corresponds with the onset of limited autochthonous transmission, and the onset of stay-at-home and mobility limitation measures. The number of HIV-positive MSM initiating treatment (from 11.1% to 8.1%) and undergoing viral load testing during this period also decreased (from 39.9% to 36.1%).

Conclusions: Reductions in the provision of HIV prevention services for MSM during the COVID-19 epidemic highlight the urgent need to adapt, innovate, and identify new opportunities for services tailored to the conditions imposed by epidemics.

Keywords: prevention; COVID-19; HIV; key populations; MSM; Cuba.

RESUMEN

Introducción: La pandemia de COVID-19 ha tenido un gran impacto en la provisión de servicios relativos al VIH en las poblaciones clave.

Objetivo: Explorar el impacto del COVID-19 en los servicios relacionados con el VIH para hombres que tienen sexo con hombres (HSH) en Cuba durante el primer año de la epidemia.

Métodos: Se realizó un estudio transversal para comparar la prestación de servicios seleccionados entre 2019 (etapa prepandémica) y 2020 (transmisión autóctona limitada, y

etapas epidémicas). Los datos se extrajeron de dos bases de datos nacionales de Cuba. Se calculó la frecuencia de atención por tipo de servicio trimestralmente en 2019 y 2020. Se realizaron pruebas estadísticas para determinar las diferencias entre cada indicador.

Resultados: Se encontró una reducción significativa del alcance con el paquete mínimo de prevención y pruebas del VIH en 2020 en comparación con 2019, especialmente en el segundo trimestre de 2020 (disminución de 15,9 % a 9,6 % $p < 0,001$ y de 11,0% a 6,5 % $p < 0,001$), lo que se corresponde con el inicio de la transmisión autóctona limitada, y el inicio de las medidas de permanencia en el hogar y limitación de la movilidad. El número de HSH seropositivos que iniciaron tratamiento (del 11,1 % al 8,1 %) y se sometieron a pruebas de carga viral durante este periodo también disminuyó (del 39,9 % al 36,1 %).

Conclusiones: Las reducciones en la prestación de servicios de prevención del VIH para HSH durante la epidemia de COVID-19 ponen de manifiesto la urgente necesidad de adaptar, innovar e identificar nuevas oportunidades de servicios adaptados a las condiciones impuestas por las epidemias.

Palabras clave: prevención; COVID-19; VIH; poblaciones clave; HSH; Cuba.

Recibido: 08/05/2023

Aceptado: 29/08/2023

Introduction

The COVID-19 pandemic has the potential to disrupt access to and use of health services, including those related to HIV prevention and care.^(1,2,3,4,5) In some countries in Latin America and the Caribbean, which are mostly low-and-middle income countries (LMIC), it has been necessary to redirect resources, health personnel, and materials intended for HIV prevention to the response against COVID-19.⁽⁶⁾ Starting in March 2020, the World Health Organization (WHO) encouraged national HIV programs to develop contingency plans if routine HIV services continued to be affected.⁽⁷⁾

Data collected across distinct settings have shown a descendent trend in the provision of HIV services.^(6,9,10) In the case of HIV testing, a significant and sustained decline over time has been detected.⁽⁹⁾ According to the Joint United Nations Program on HIV/AIDS (UNAIDS); there were 3.5 million more new HIV infections in 2020 than expected.⁽⁸⁾ It is suggested that continued disruptions to HIV prevention and treatment services due to the COVID-19 pandemic could set back global HIV prevention targets for 2030 by more than 10 years.^(6,8)

In Cuba, HIV prevalence in the population aged 15-49 years is 0.4%, while in MSM it is 6.3%.^(11,12,12) In conjunction with the development of the Cuban National SARS-COV-2/COVID-19 Prevention and Control Plan, strategies were defined to minimize the impacts of this emergency on other health services and indicators. By April 2020, the Cuban Health System had defined a strategy to preserve the provision of essential HIV services defined as: primary prevention services; diagnostic testing; early treatment; and viral load testing.⁽¹¹⁾ Emphasis was placed on HIV-related services for MSM, given their disproportionate burden,^(13,14) and the history of stigmatization that has made them one of the populations most vulnerable to social exclusion.^(14,15) To this end, supplies were secured to leaders of the MSM-Cuba Network in provinces and municipalities of the country (cell phones, tablets, internet access, messages, and calls) and the online review and feedback system was strengthened to collect data on the reach of these services.⁽¹¹⁾

In this complex epidemiological setting, it is essential to identify whether the COVID-19 epidemic affected access to and use of HIV-related services for MSM in Cuba to determine where additional resources and new approaches may be needed. To this end, the objective of this study was to assess the impact of COVID-19 on HIV-related services for MSM in Cuba during the first year of the epidemic.

Methods

We conducted a cross-sectional study to compare the use of HIV prevention services, diagnostic testing, treatment initiation, and viral load testing in 2019 (pre-COVID-19) and 2020 (first year of the pandemic). The 2020 quarters roughly correspond to the epidemiological phases (defined by the Cuban Ministry of Health) of the first wave of the

epidemic in Cuba: pre-epidemic, limited autochthonous transmission, and epidemic, respectively.^(16,17)

We extracted data from two sources: 1) the MSM monitoring and evaluation system⁽¹²⁾ and 2) the HIV/AIDS Registry of the Cuban Ministry of Public Health. Both systems provide nationwide information. Data from both systems were extracted into Microsoft Excel and analyzed on a quarterly basis.

The computerized HIV registry assigns a unique identifier to each confirmed case. The information is updated online from the provinces and municipalities where the patient resides. The registry contains data that constitute the numerators and denominators of several impact and coverage indicators used by the National HIV Program for reporting to UNAIDS for Global AIDS Monitoring (GAM), WHO/PAHO, and the Global Fund.^(12,13) The MSM monitoring and evaluation system employs standardized tools for tracking coverage of minimum prevention service package delivery and HIV testing in community settings. Measurement of these coverage indicators is done through periodic reports that collect information from provinces and municipalities.⁽¹³⁾

The frequency of MSM reached by service type (i.e., prevention, HIV testing, treatment, viral load) was calculated annually and in each quarter of 2019 and 2020. The proportions of persons reached in each service were calculated as follows (table 1).

Table 1 - Numerator and denominator used to calculate the proportion of MSM reached in services

Calculation Numerator/ Denominator	MSM reached by each service				
	Received a minimum package of prevention services	Were tested for HIV	Received antiretroviral treatment (ART) for the first time	Underwent routine viral load testing	Viral load (VL) suppressed (<1000 copies/ml)
Numerator	Number of MSM reached with a minimum prevention service package	Number of MSM who had an HIV test	Number of MSM diagnosed with HIV who initiated antiretroviral treatment for the first time	Number of MSM diagnosed with HIV who underwent routine viral load testing	Number of MSM diagnosed with HIV with suppressed viral load (CV) (<1000 copies/ml)
Denominator	Estimated or reported population of HIV-negative MSM. ^(13,19)	Estimated or reported population of HIV-negative MSM. ^(13,19)	Number of MSM living with HIV. ⁽¹⁹⁾	Number of MSM living with HIV. ⁽¹⁹⁾	Number of MSM diagnosed with HIV who underwent

					routine viral load testing. ⁽¹⁸⁾
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Source: Own elaboration.

Next, we calculated year-to-year differences between the 2019 and 2020 proportions and between quarters within 2020 of MSM reached and tested with two independent samples proportion tests with 95% confidence intervals. We tested for linear trend between quarters using the Chi-square test. The significance level of the tests was defined as $p \leq 0.05$ (p -value). We used Epidat 3.1 statistical software for all comparative analyses.

The study was approved by the Department of Vulnerable Groups of the Health Promotion and Disease Prevention Unit (PROSALUD) and the Ethics Committee of the institution. The ethical criteria for the handling and confidentiality of the information in the documents analyzed were respected. Since we worked with previously collected national statistics, a consent waiver was obtained for the study.

Results

Table 2 presents the proportion of MSM reached with the minimum package of prevention services, tested for HIV, diagnosed with HIV, and treated with ART for the first time by quarter in 2019 and 2020. Results of comparative analysis show that starting with the second quarter of 2020, the proportion of MSM provided with a minimum package of prevention services, HIV testing, and ART initiation was significantly lower compared to the same period in 2019. It is notable that the greatest decline in the proportion of MSM reached by most of the HIV-related services occurred in the second quarter of 2020, the limited autochthonous transmission phase of the first year of the epidemic in Cuba.

Table 2 - MSM reached according to type of service in 2019 (pre-epidemic) and 2020 (epidemic first year)

Indicator	2019		2020*		Proportions difference d (CI 95%)	P value
	MSM reached	%**	n	%		
MSM reached with a minimum package of prevention services						
January-March	42 035	16,1	38 392	15,9	0,2 (0,0-0,4)	0.053
April-June	86 320	33,1	23 060	9,6	23,6 23,4-23,8)	< 0.001
July-September	68 515	26,3	39 566	16,4	9,9 (9,7-10,1)	< 0.001
October-December	56 934	21,9	47 785	19,8	2,0 (1,8-2,2)	< 0.001
MSM tested for HIV						
January-March	39 342	15,1	26 597	11,0	4,1 (3,9-4,3)	< 0.001
April-June	35 500	13,6	15 732	6,5	7,1 (6,9-7,3)	< 0.001
July-September	41 634	16,0	26 568	11,0	5,0 (4,8-5,1)	< 0.001
October-December	40 900	15,7	23 609	9,8	5,9 (5,7-6,1)	< 0.001
MSM with HIV who received ART for the first time						
January-March	270	14,1	243	10,1	4,1 (2,0-6,1)	< 0.001
April-June	344	18,0	196	8,1	9,9 (7,8-12,0)	< 0.001
July-September	286	14,9	187	7,7	7,2 (5,2-9,2)	< 0.001
October-December	257	13,4	247	10,2	3,2 (1,2-5,2)	0,0013

Legend: * Quarters of 2020 correspond to pre-epidemic, autochthonous transmission, post-COVID-19 recovery, and new normality phases of the epidemic in Cuba;** Percentage of total reported or estimated MSM population (denominator) for each specific relative indicator.

Source: Own elaboration.

Table 3 presents the results of the comparative analysis of viral load testing. The proportion of MSM living with HIV with at least one routine viral load test performed was significantly lower in 2020, compared to 2019 pre-epidemic year; however, among those who had a test, a greater proportion were suppressed in 2020 compared to 2019.

Table 3 - MSM with viral load test performed and virologically suppressed in 2019 (pre-epidemic) and 2020 (epidemic first year)

Indicator	2019		2020		<i>d</i> (CI (95%))	<i>p</i> value
	n	%	n	%		
MSM who had a routine viral load test	7511	39,9	7058	36,1	3,9 (2,9-4,8)	< 0.001
Of them, with viral load suppressed (VL< 1000 copies/ml)	5895	78,5	6022	85,3	6,8 (5,6-8,1)	< 0.001

Source: Own elaboration.

When comparing the proportion of MSM reached with a minimum package of prevention services in the 2020 quarters using the first quarter of 2019, (corresponding to the pre-epidemic phase) as the baseline value, we found a statistically significant decrease from 15.9% to 9.6%. However, from the third to the fourth quarter, coverage increased to 16.4% and 19.8%, respectively; showing a significant linear trend.

Discussion

In Cuba, despite the national strategy to mitigate the social and health impact of COVID-19 on key populations, the first year of the epidemic saw a clear decline in the provision of HIV-related services for MSM, including the minimum package of prevention services, diagnostic testing, initial treatment, and viral load testing. The limitation of non-essential services during the epidemic also led to a decline in demand for HIV-related services. These disruptions in HIV-related services are consistent with reports from several countries during the COVID-19 pandemic.^(1,2,3,20) Our findings reinforce the importance of monitoring service coverage and outcomes and estimating potential medium- and long-term consequences, considering that the period with the greatest decline in coverage indicators coincides with the most complex epidemiological scenario, whereas the recovery of services corresponds with the recovery phases of the first epidemic wave.

The results of this study also suggest that the reduction in HIV outreach and prevention activities in community settings due to COVID-19 led to a reduction in the provision of the

minimum package of prevention services to MSM and in their demand by these populations. This finding is consistent with a study conducted between mid-April and mid-May through social networking and LGBT-oriented dating sites that recorded a 6% decrease in access to condoms due to increased security measures because of COVID-19 [21]. The observed decrease in the number of MSM with HIV who initiated treatment for the first time is also consistent with the reductions shown in several countries for a month or more with respect to January 2020 (beginning of the COVID-19 epidemic) due to the restriction of non-urgent medical appointments because of the physical distancing measures.^(10,22)

Due to the strong focus on viral load suppression in HIV prevention, it is particularly relevant to analyze the performance of this indicator. Coverage of routine viral load studies in the general population and in MSM had stagnated in Cuba even before the COVID-19 epidemic.⁽¹¹⁾ It is presumed that the main problem is organizational, a situation that could be exacerbated consequently because of the overload of the health services caused by this global health emergency. We found that a higher percentage of MSM who had a viral load test were found to be virologically suppressed HIV. Other studies have provided mixed findings about virological suppression during COVID-19, including both increases and decreases, which have been reported in another study.^(23,24) There is a need for ongoing monitoring and research to fully understand these trends and the impact of COVID-19 on suppression among MSM.

The decline in the number of HIV tests performed as result of the limitation of non-essential services during the COVID-19 epidemic in Cuba could explain the decrease in HIV incidence recorded in 2020, with respect to the previous year among MSM.⁽²⁵⁾ These findings could imply a slowdown in the public health response to HIV, which would impose new challenges to achieve one of the main objectives of HIV prevention, especially in this key population group.

This study was conducted in relation to the first wave, when SAR-CoV-2 transmission in Cuba was somewhat limited and the number of COVID-19 cases was low. However, during subsequent waves, in 2021, when the largest peak of the epidemic occurred,⁽¹⁶⁾ the impact on HIV cases could have been worse. Therefore, the trends observed in 2020 with respect to declining services could have continued or increased over time if no action was taken.

For this reason, in 2021, resources were reprogrammed from the Global Fund grant in Cuba and new funds were mobilized from the COVID-19 Response Mechanism (C19RM). These

resources were used to purchase individual means of protection for health personnel and promoters of key populations, as well as key medicines and supplies for HIV prevention and testing.⁽²⁵⁾ A key strategy was to activate a network of MSM peers who, in coordination with primary care staff, brought prevention, testing, treatment, care and follow-up services closer to key populations and other vulnerable groups.⁽²⁵⁾ Fixed delivery points for the minimum prevention package were also established in community centers, homes of promoters and social activists, and informal community venues to facilitate service in times of isolation and disseminate them to increase outreach.⁽²⁵⁾

Despite these efforts, at the close of 2020, as can be seen in this study, HIV services and some of the coverage indicators of the National HIV Program were affected.

Conclusions

During the first year of confronting the COVID-19 epidemic in Cuba, the provision of HIV prevention, testing, and treatment initiation services for MSM declined. These results highlight the urgent need to adapt, innovate, and identify new opportunities to adapt HIV service delivery to the conditions imposed by epidemics and other health emergencies.

Acknowledgements

The authors are thankful to Yosiel Molina Gómez for their helpful contributions to the manuscript.

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Conflict of de interest

No conflict of interest.

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