Syphilis screening in hospitalized people with HIV: a key strategy to tackle HIV and STI epidemics

1239

Mayara Secco Torres da Silva[1], Isabel Cristina Ferreira Tavares[1], Carolina Coutinho[1], Thiago Silva Torres[1], Eduardo Mesquita Peixoto[1], Brenda Hoagland[1], Ingebourg Georg[1], Leonardo Rosadas[1], Estevão Portela Nunes[1], Emilia Moreira Jalil[1], Rodrigo Otavio Silva Escada[1], André Miguel Japiassu[1], Sandra Wagner Cardoso[1], Valdiléa Gonçalves Veloso[1], Beatriz Grinsztejn[1]

[1] Instituto Nacional de Infectologia Evandro Chagas, Fundação Oswaldo Cruz, Rio de Janeiro, RJ, Brazil.

BACKGROUND

- Active sexually transmitted infections (STI) elevate the risk of HIV acquisition, highlighting the need for timely diagnosis and treatment to address the intertwined HIV/STI epidemics.
- Latin America bears a disproportionate burden of STIs, with sexual and gender minorities most affected. In recent years, Brazil has experienced a concerning rise in acquired/congenital syphilis cases, particularly among people with HIV (PWH), evolving into a major public health challenge.
- This study aims to evaluate the prevalence of active syphilis and its associated factors among hospitalized PWH within the framework of a universal syphilis screening strategy.

METHODS

- A retrospective analysis was conducted on all PWH hospitalized at INI-Fiocruz, an infectious diseases' referral center in Rio de Janeiro, Brazil from October 2021 to April 2024.
- Participants hospitalized for neurosyphilis were excluded.
- All participants were screened for syphilis, with active syphilis defined as a VDRL titer ≥1/8. Sociodemographic and clinical characteristics were compared based on syphilis diagnosis (yes vs no), using Chi-squared/Fisher's exact tests (categorical variables) and the Wilcoxon test (continuous variables) to assess group differences.

Active syphilis was common among hospitalized PWH and associated with higher HIV viral loads, lower CD4 counts, and more frequent hepatitis C coinfection. Expanding syphilis screening in this setting could play a key role in tackling Brazil's syphilis epidemic by reaching those disengaged from health services.

RESULTS

- A total of 1,881 PWH were admitted, with an overall syphilis prevalence of 13.8%.
- Participants with active syphilis were younger and more frequently cisgender men, with no significant differences observed in race/color or educational level (Table). Those diagnosed with syphilis were more likely to have HIV-RNA viral loads (VL) >1,000 cps/mL (38.1% *vs* 32.8%) and CD4+ cell counts ≤200 cells/mm³ (61.3% *vs* 55.7%).
- Opportunistic diseases were diagnosed in 61.4% of participants with active syphilis.
- Coinfections with mpox, hepatitis B, and hepatitis C were diagnosed in 3.5%, 3.1%, and 5.4% of cases, respectively.
- Hepatitis C seroprevalence was higher among participants with active syphilis (5.4% *vs* 1.8%).

Table. Characteristics of people with HIV hospitalized at an Infectious Diseases' referral center in Rio de Janeiro, Brazil, based on syphilis diagnosis

	PWH with active syphilis (n=259)	PWH without active syphilis (n=1,622)	p-value[1]
Age (median, IQR)	36 (30,44)	42 (33, 53)	**<0.001**
Gender identity[2]:			
Cisgender women	65/257 (25.3%)	588/1,611 (36.5%)	**0.002**
Cisgender men	181/257 (70.4%)	978/1,611 (60.7%)	
Transgender women	11/257 (4.3%)	44/1,611 (2.7%)	
Race/color: black or *pardo* (mixed race)	136/193 (70.5%)	914/1,287 (71.0%)	0.523
Educational level: Primary	58/222 (26.1%)	497/1,478 (33.6%)	0.085
HIV-RNA VL:			
≤ 1,000 copies/mL	70/215 (62.6%)	627/1,403 (44.7%)	**0.009**
1,001-100,000 copies/mL	63/215 (29.3%)	316/1,404 (22.5%)	
>100,000 copies/mL	82/215 (38.1%)	460/1,404 (32.8%)	
Lymphocyte T-CD4+:			
≤ 200 cells/mm³	141/230 (61.3%)	832/1,495 (55.7%)	0.072
201-350 cells/mm³	31/230 (13.5%)	194/1,495 (12.9%)	
> 350 cells/mm³	58/230 (25.2%)	469/1,495 (31.4%)	
Mpox	9/259 (3.5%)	27/1,622 (1.7%)	0.081
Hepatitis B seroprevalence	8/259 (3.1%)	32/1,622 (2.0%)	0.248
Hepatitis C seroprevalence	14/259 (5.4%)	29/1,622 (1.8%)	**<0.001**

[1] Wilcoxon rank sum test; Pearson's Chi-squared test; Fisher's exact test | [2] There was one transgender man, who has not been diagnosed with syphilis.

CONCLUSIONS

- Routine syphilis screening for hospitalized PWH is crucial for tackling the growing syphilis epidemic in Brazil, particularly for those who are disengaged from regular HIV care. Likewise, it mitigates the heightened risk of HIV transmission associated with active STIs in individuals with elevated viral loads.
- Integrating syphilis screening into standard care is essential for managing the interconnected HIV and STI epidemics, particularly in high-burden settings.

✉ **secco.mayara@gmail.com**