

High burden of urogenital gonorrhoea and lower HIV prevalence in younger Ugandan men with urethral discharge syndrome: An opportunity for STI and HIV prevention interventions

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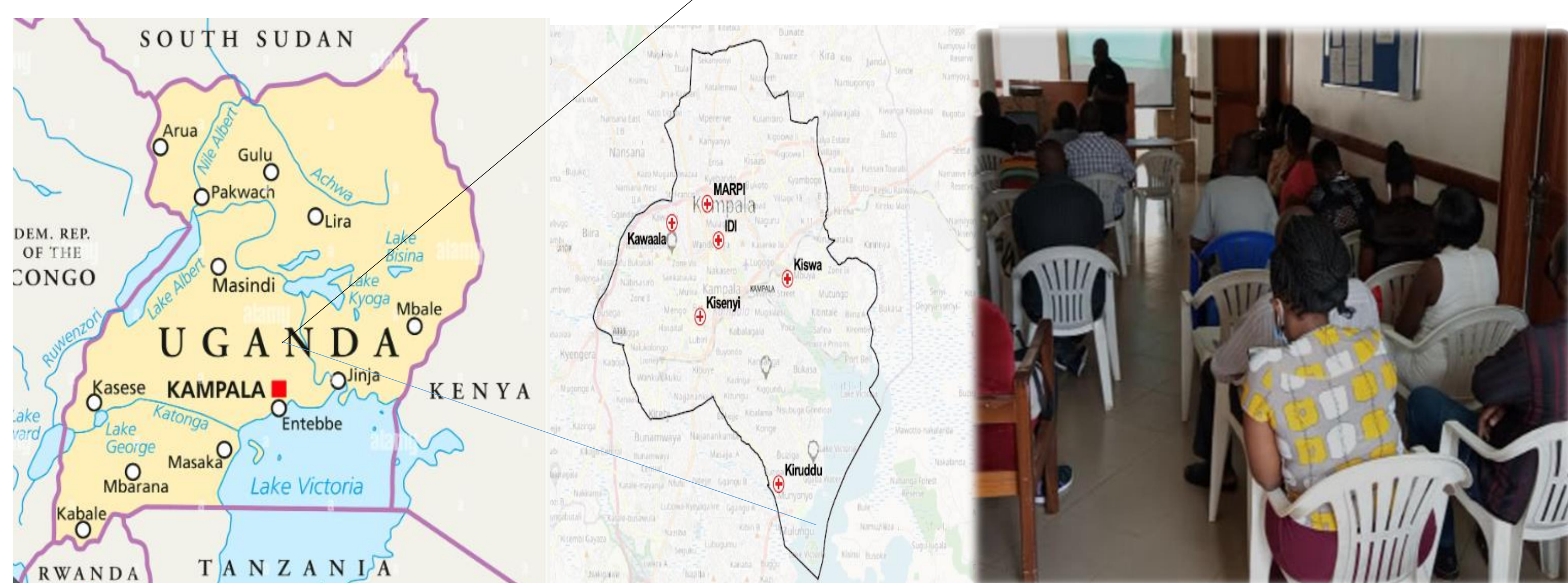
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Introduction

- Adolescents and young people are disproportionately affected by HIV and other sexually transmitted infections (STIs)¹.
- Neisseria gonorrhoeae* (Ng), a marker for unprotected sex, increases HIV transmission risk².
- Few studies have looked at Ng and HIV prevalence among adolescent and young men in low- and middle-income countries^{3,4}.
- This study explored associations with Ng and HIV by age categories (< vs ≥ 25 years).

Methods

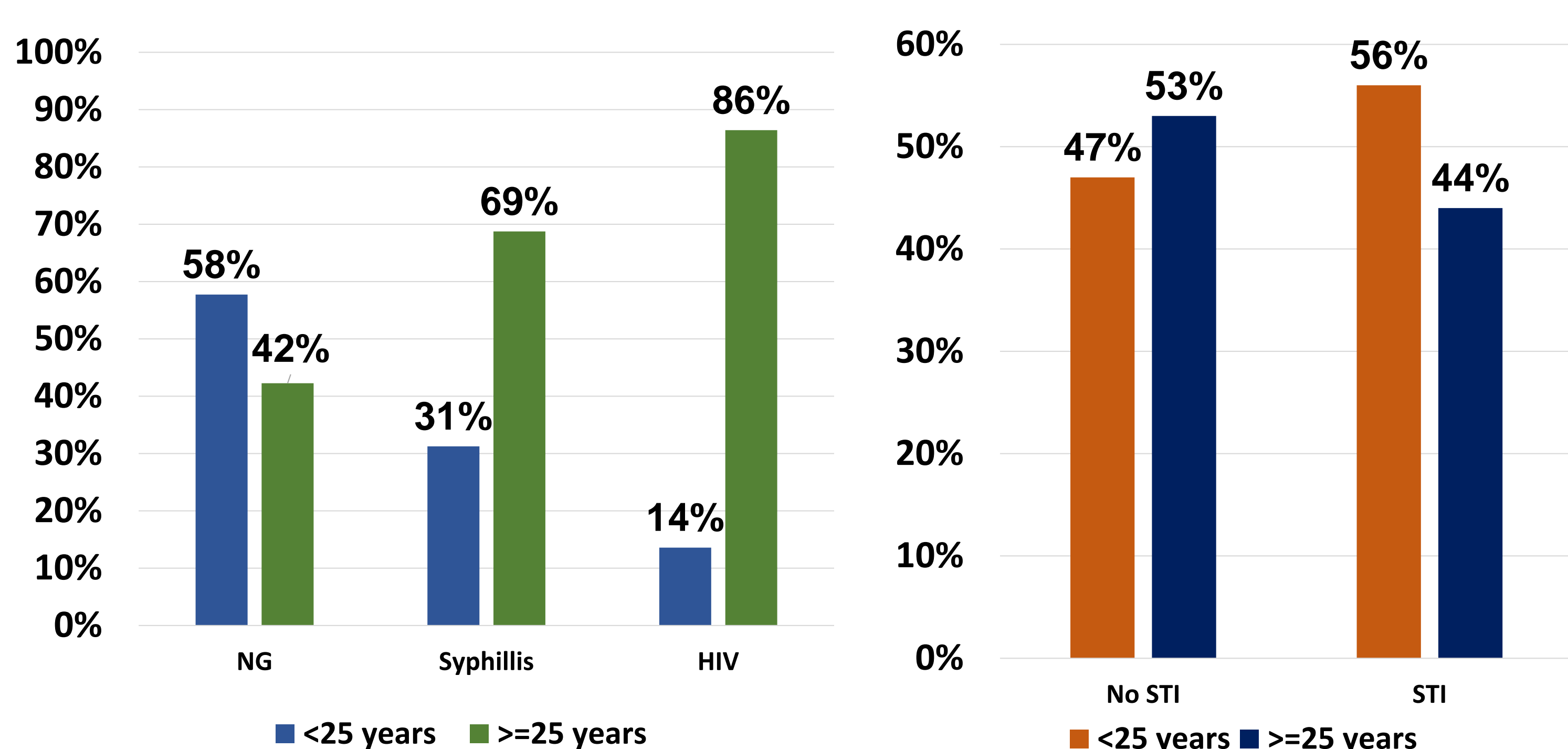
Figure 1. Inset showing study sites in Uganda (red)



- Between October 2019 and July 2022, 450 men seeking treatment for urethral discharge syndrome from six free of charge government clinics in Kampala, Uganda were recruited.
- Demographic, clinical and behavioral data were collected using structured questionnaires.
- Self-collected penile swabs, urine and blood were collected.
- Ng cultures were performed on selective media using penile swabs.
- HIV testing was performed at the point-of-care using a sequential algorithm.
- Syphilis antibodies were tested for using the Abbott SD Bioline HIV/Syphilis Duo test.
- Chi square was used to explore associations with Ng and HIV by age categories (< vs ≥ 25 years).

Results

Figure 2. Proportions of STIs by age group



Results

Table 1: Characteristics of participants by age category

Variable	Frequency, n (%)			P-Value
	< 25 years n=237 (52.7) Median age 22 (IQR=21-23)	≥ 25 years n=213 (47.3) Median age 32 (IQR=28-40)	Total n=450 (100.0) Median age 26 (IQR=22-34)	
HIV status[^]				
Positive	8 (3.4)	67 (31.5)	75 (16.7)	<0.001
Negative	189 (79.8)	127 (59.6)	316 (70.2)	
Unknown	40 (16.9)	19 (8.9)	59 (13.1)	
If HIV positive, n=75 (multiple response)				
Taking ART	8 (100)	63 (94)	71 (94.6)	0.066
Viral load Undetectable	3 (8.1)	34 (91.9)	37(52.1)	
Number of sexual partners in 6 months				
None	5 (2.1)	2 (0.9)	7 (1.6)	0.011
1 partner	78 (32.9)	98 (46.0)	176 (39.1)	
2-3 partners	105 (44.3)	84 (39.5)	189 (42.0)	
≥4 partners	49 (20.7)	29 (13.6)	78 (17.3)	
Condom use				
Always	2 (0.8)	3 (1.4)	5 (1.1)	0.829
Sometimes	120 (50.6)	105 (49.3)	225 (50.0)	
Never	115 (48.5)	105 (49.3)	220 (48.9)	
Transactional sex				
Yes	109 (46.0)	97 (45.2)	206 (91.2)	0.887
No	128 (54.0)	116 (54.5)	244 (54.2)	
Laboratory test results				
HIV, n=441*				
Positive	11 (4.7)	70 (33.7)	81 (18.3)	<0.001
Negative	222 (94.9)	138 (66.4)	360 (81.5)	
Total	233 (100.0)	208 (100.0)	441 (100.0)	
New HIV Diagnosis by lab test				N/A
Positive	3 (27.3)	3 (4.3)	6 (7.4)	
Syphilis, n=441*				
Positive	10 (4.3)	22 (10.6)	32 (7.3)	0.016
Negative	222 (94.9)	185 (89.4)	407 (92.3)	
Indeterminate	2 (0.9)	-	2 (0.5)	
Total	234 (100.0)	207 (100.0)	441 (100.0)	
Ng Culture results				
Positive	153 (64.6)	112 (52.5)	265 (58.9)	0.035
Negative	82 (34.6)	98 (46.0)	180 (40.0)	
Indeterminate	2 (0.8)	3 (1.4)	5 (1.1)	

[^] HIV status and viral load of participant at enrollment (by self-report)

*Only 441/450 participants had blood tests done

- 27.3% (3/11) aged <25 years were unaware of their HIV positive status.
- One in three men aged >25 years with UDS also had HIV.
- Six in 10 reported a detectable viral load. Transactional sex was high, consistent condom use very low.
- Men <25 years had lower HIV and higher Ng prevalence.

Conclusions

- Integrated HIV screening and Ng testing found higher Ng prevalence among younger men <25 years; and a high yield in detecting undiagnosed HIV.
- Integrated screening for Ng and HIV/syphilis in men with UDS should be systematically strengthened to improve case finding and presents an opportunity for targeted HIV/STI prevention interventions.
- In people living with HIV with high risk sexual behavior, ART adherence support is required to decrease HIV transmission by improving prevalence of viral suppression in those with HIV on ART

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