Short report

High levels of undiagnosed rectal STIs suggest that screening remains inadequate among Black gay, bisexual and other men who have sex with men

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ABSTRACT

Objective To better understand rectal STI screening practices for Black gay, bisexual and other men who have sex with men (BGBMSM).

Findings Although 15% of BGBMSM lab tested positive for a rectal STI, the majority of these (94%) were asymptomatic. Though all participants reported their status as HIV negative/unknown, 31 of 331 (9.4%) tested positive on HIV rapid tests. Neither condomless anal intercourse nor the number of male sex partners was associated with rectal STI or HIV diagnosis, although rectal STI diagnosis was positively related to testing HIV positive.

Conclusions Findings suggest that substantial numbers of BGBMSM have asymptomatic STIs but are not tested—an outcome that is likely a strong driver of onward HIV acquisition. Therefore, we must address the asymptomatic STI epidemic among GBMSM in order to reduce HIV transmission, as well as temper STI transmission, among this key population.

INTRODUCTION

Despite advancements in HIV prevention, Black gay, bisexual and other men who have sex with men (BGBMSM) continue to experience a high burden of HIV in the USA. Without changes in current HIV incidence rates, it is estimated that 60% of BGBMSM will be living with HIV by the age of 40 years.[1] STIs remain a strong predictor of HIV seroconversion.[2] As such, the Centers for Disease Control and Prevention (CDC) recommends[3] routine testing for STIs at each site of sexual contact every 3–6 months for sexually active MSM.

However, rectal STI screening is less frequently performed than urethral screening among MSM in community-based sexual health clinics (for both individuals living and not living with HIV in the USA).[4] In prior research, providers ranged from two (18.3% urethral vs 8.5% rectal) to six times (13.8% urethral vs 2.3% rectal) more likely to perform urethral chlamydia and gonorrhoea screening as compared with rectal screening.[4] Moreover, efforts to address the need for rectal STI testing have not been prioritised,[5] with the first Food and Drug Administration-approved rectal STI diagnostic test not appearing until 2019.[6]

Though the CDC recommends testing every 3–6 months for 'at-risk' MSM, reliance on this directive for determining testing may also contribute to testing disparities. In particular, determining who is 'at risk' can be difficult for healthcare providers to assess. Healthcare providers typically use patient-reported behaviours for determining STI testing needs, such as recent acts of condomless anal intercourse (CAI) and number of sex partners.[7]

Given that presence of an STI is one of the most robust predictors of HIV seroconversion among MSM,[2] stakeholders need to test the assumption that these behavioural risk factors are adequate markers of the need for rectal and urethral STI screening among BGBMSM. To illustrate a potential gap in the STI continuum of care, we explored data from a behavioural and testing study of BGBMSM. We tested whether behavioural risk factors were positively associated with rectal STI and HIV diagnoses to determine whether these are adequate markers to guide testing needs in the clinical setting.

METHODS

We analysed data from 331 BGBMSM from Atlanta, Georgia collected in 2017–2019. Participants were recruited from a larger longitudinal study, primarily through social media advertisements (ie, Facebook, Reddit, Snapchat, Twitter), word of mouth and geospatial networking apps (ie, Grindr, Scruff). Written informed consent was provided by participants. All participants were 18 years of age or older, assigned male sex at birth, identified as Black/African American, reported CAI in the past year, and self-reported an HIV-negative or unknown status.[8]

BGBMSM reported on the number of CAI acts and number of male partners in the past 3 months, sexual identity disclosure and self-reported STI diagnosis history. Lab tests to diagnose rectal and urethral chlamydia and gonorrhoea (nucleic acid amplification testing), as well as antibody testing for HIV (OraQuick ADVANCE Rapid HIV 1/2), were self-administered by the participant during a telehealth counselling session. All participants included in this study completed the STI/HIV testing and were provided their testing results—men who received positive results were actively linked to local STI no-cost or low-cost clinics.

RESULTS

The majority of the sample both reported their sexual orientation as gay (n=175 of 331; 52.9%)

Table 1 Sample demographics and results from logistic regression bivariate analyses (total=331)

Sample demographics			
	N	**%**	
Sexual orientation			
Same gender loving	65	19.6	
Gay/homosexual	175	52.9	
Bisexual	82	24.8	
Heterosexual	9	2.7	
Sexual identity disclosure (ie, outness)			
Not out about sexual identity	20	6.1	
Sometimes out about sexual identity	114	34.5	
Completely out about sexual identity	196	59.4	
STI testing results			
Tested positive for rectal chlamydia and/or gonorrhoea	51	15.4	
Tested positive for rectal chlamydia only	31	11.2	
Tested positive for rectal gonorrhoea only	14	6.0	
Tested positive for both rectal chlamydia and gonorrhoea	6	1.8	
Past 3-month STI symptoms	3	0.9	
Past 3-month STI diagnosis	2	0.6	
Past 12-month physical examination	222	66.8	
Past 3-month sex with man			
Yes	285	86.1	
No	46	13.9	
Number of male anal sex partners (3 months)	M=3.11 SD=5.88 Range=0–80		
Number of condomless anal intercourse acts (3 months)	M=4.38 SD=9.63 Range=0–71		
Bivariate logistic regression models testing associations with rectal STI diagnosis			
	OR	**95% CI**	**P value**
Number of male sex partners (3 months)	0.98	0.94 to 1.02	0.29
Number of condomless anal intercourse acts (3 months)	0.99	0.93 to 1.05	0.77
Sexual orientation disclosure—what was ref category?	0.96	0.59 to 1.57	0.88
Bivariate logistic regression models testing associations with antibody HIV test diagnosis			
	OR	**95% CI**	**P value**
Number of male sex partners (3 months)	0.99	0.92 to 1.07	0.89
Number of condomless anal intercourse acts (3 months)	0.94	0.86 to 1.03	0.20
Sexual orientation disclosure	1.55	0.75 to 3.23	0.24

In all bivariate models, the dependent variable was lab-confirmed negative (coded 0) or positive (coded 1) rectal chlamydia or gonorrhoea result. 'Number of male sex partners' was the number of different men a participant reported having anal sex with in the past 3 months; 'number of condomless anal intercourse acts' was the number of condomless anal intercourse acts reported in the past 3 months; 'sexual orientation disclosure' measured whether men were completely closeted, closeted to some or out to everyone about their sexual orientation (higher scores indicate more outness); reference category was 0, 'completely closeted'.
M, mean.

and had completely disclosed their sexual orientation to others (n=196 of 331; 59.4%). Regarding patterns of screening, n=51 of 331 BGBMSM (15.4%) tested positive for a previously undiagnosed rectal gonorrhoea or chlamydia infection (see table 1). Among these 51 men, just 3 (5.9%) reported symptoms over the past 3 months (eg, burning, sores, itching). Two (3.9%) reported a previous STI diagnosis in the past 3 months. Of those BGBMSM who tested positive for a previously undiagnosed rectal chlamydia and/or gonorrhoea infection, 41% (n=21) reported having a physical examination in the past year, an annual examination that oftentimes includes a lot of screening (eg, for STIs) in the USA.

Despite the entire sample self-reporting as HIV-negative or unknown status, 31 of 331 (9.4%) participants tested HIV antibody positive; of these, 12 of 31 (39%) also tested positive for a rectal STI. Regarding associations between STI diagnosis and HIV, rectal STI lab diagnosis of chlamydia and/or gonorrhoea was positively associated with testing positive for HIV antibodies, $X^2(1)=19.63$, $p<0.001$.

Regarding links between behavioural risk factors and rectal STI, neither of our two routinely assessed behavioural factors: CAI acts (STI: OR=0.99, 95% CI=0.93 to 1.05; HIV: OR=0.94, 95% CI=0.86 to 1.03) and number of male anal sex partners (STI: OR=0.98, 95% CI=0.94 to 1.02; HIV: OR=0.99, 95% CI=0.92 to 1.07), were associated with rectal STI or HIV diagnosis. Sensitivity analyses were also conducted for both CAI and number of partners. We tested whether there was an association if we converted the continuous measure of CAI into absence versus presence. We then also created a high-risk group using scores greater than the median (Mdn=1) compared with a low-risk group (ie, 1 or below). We found no association with either rectal STI or HIV diagnosis ($p>0.05$). Regarding number of partners, we first examined absence of any male anal sex partners compared with presence of any, and then created a high-risk group using scores greater than the median (Mdn=1) as compared with a low-risk group (ie, 1 or below). There were no associations with rectal STI or HIV diagnosis ($p>0.05$).

DISCUSSION

Given the high percentage of asymptomatic participants testing positive for a previously undiagnosed rectal STI and HIV, respectively, our data demonstrate a need to increase both HIV and (particularly rectal) STI testing among BGBMSM—the group at the highest risk of HIV in the USA. Absence of STI symptoms leads to less testing, more undiagnosed STIs and subsequently to onward transmission of these infections, increasing HIV susceptibility. Our finding extends previous research[9] by highlighting that for some BGBMSM, known behavioural risk factors were not associated with rectal STI diagnosis.

Notably, nearly half of the BGBMSM in this study who were lab-tested positive for chlamydia and/or gonorrhoea had attended a physical examination care visit with their primary physician within the past year; in the USA, these physicians have the capacity to screen for HIV and STIs. Even though CDC guidelines for STI/HIV testing are available for providers caring for GBMSM, there is likely a vast deficit between recommendation and practice. The degree to which sexual health is included in routine examinations in the USA and across the world may vary widely, such that we are unsure whether or not providers assess sexual health histories in the same ways globally—this serves as a limitation in the utility of not taking a holistic approach in STI and HIV prevention. Nonetheless, a shift in expectations and demands when providing medical care for MSM is needed if we are to continue slowing the HIV epidemic.

Within clinical consultations, self-reporting of CAI and number of sex partners are important indicators for STI screening,[10] but disclosure of these behaviours assumes patients are comfortable sharing their sexual orientation and/or sexual behaviours therein. This potential concern about disclosure is further complicated when participants visit clinics or physicians who are not trained in lesbian, gay, bisexual, transgender and queer (LGBTQ)-specific healthcare. Even when patients do disclose, our data show that commonly assessed sexual risk behaviours may not be predictive of rectal STIs and HIV among some BGBMSM. That is, contrary

to current STI screening guidelines, perceived high-risk sexual behaviours were not associated with lab-diagnosed STIs or HIV.

Under current health screening practices, STI asymptomatic BGBMSM—especially those concerned about disclosure of their sexual orientation/sexual history—would likely remain undiagnosed and untreated for rectal chlamydia and/or gonorrhoea. For these men, the absence of routine rectal STI tests may have increased both their risks for onward STI transmission and subsequent HIV seroconversion. In addition to an absence of STI/HIV testing, other impediments (eg, unwelcoming healthcare facilities for LGBTQ individuals) may have existed for these men—future research should examine key barriers and facilitators of STI testing for BGBMSM. Increased HIV susceptibility and transmission due to undiagnosed asymptomatic rectal STI is preventable with routine multisite STI screening.

We did not assess for STI testing history in this study, so we are unable to ascertain whether the lab-diagnosed rectal STIs were acquired recently or were longstanding. Future research should carefully measure testing histories and behaviours to accurately distinguish the temporality of STI in relation to healthcare screening and sexual behaviours.

CONCLUSIONS

The current healthcare infrastructure related to STI screening in the USA is not meeting the needs of BGBMSM; consequently, without considerable change to the status quo, HIV transmission will continue. Though disparities in rectal STI screening have been documented,[9] it may be necessary to implement rectal STI screening as standard care practice for BGBMSM. To address the gap between the CDC STI testing recommendations versus the observed suboptimal levels of STI testing among BGBMSM, we need a medical cultural shift in expectations by both the healthcare system and patients that results in rectal STI testing being consistently delivered.

Key messages

- We find high levels of undiagnosed rectal STIs among Black gay and bisexual men who have sex with men (BGBMSM)—those at the highest risk of HIV.
- Despite their use within clinical assessments, neither condomless anal sex nor numbers of male sex partners in the last 3 months predicted rectal STI or HIV diagnoses among BGBMSM.
- Current testing practices in STI clinics and at preventive health visits need to systematically include rectal STI screening for BGBMSM to impact the undiagnosed STI and HIV epidemic for this group.

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