

Discriminatory experiences among gay, bisexual, and other men who have sex with men, and transgender and non-binary individuals: a cross sectional analysis



Lucilene Freitas,^a Thiago S. Torres,^a Brenda Hoagland,^a Mayara S. T. Silva,^a Valdilea G. Veloso,^a Beatriz Grinsztejn,^a João L. Bastos,^b and Paula M. Luz^{a,*}



^aInstituto Nacional de Infectologia Evandro Chagas, Fundação Oswaldo Cruz (Fiocruz), Av. Brasil 4365, Rio de Janeiro, RJ 21040-360, Brazil
^bFaculty of Health Sciences, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A1S6 Canada

Summary

Background Several systems of oppression combine in complex ways to impact the lives of minority populations. Following an intersectionality framework, we assessed the frequency and perceived reasons for discrimination among gay, bisexual, and other cisgender men who have sex with men (MSM) and transgender and non-binary individuals (TGNB), stratified by race.

Methods Online survey among MSM and TGNB ≥ 18 years living in Brazil, between November/2021 and January/2022. We used the 18-item Explicit Discrimination Scale to assess day-to-day experiences of differential treatment, and perceived discrimination. For each item, participants indicated their perceived reasons for differential treatment using 14 pre-defined options. Negative binomial regression models assessed if race was a significant predictor of discrimination. Subsequent models, stratified by race, examined associations of perceived reasons and number of reasons with perceived discrimination.

Findings Of 8464 MSM and TGNB, 4961 (58.6%) were White, 2173 (25.7%) *Pardo* (Brazil's official term for admixed populations), and 1024 (12.1%) Black. Black participants' scores for perceived discrimination (mean, standard deviation) were higher (10.2, 8.8) [*Pardo* (6.5, 6.8), White (5.2, 5.7)], and race was both the main reason for and the strongest predictor of perceived discrimination. The number of reasons participants used to interpret their discriminatory experiences was also a predictor of discrimination score among White, *Pardo*, and Black participants.

Interpretation LGBTQIA+phobia was highly prevalent among all participants. Additionally, our results indicated that Black MSM and TGNB participants were more frequently discriminated against than other racial groups, with racial discrimination uniquely contributing these experiences.

Funding Fundação Oswaldo Cruz, Conselho Nacional de Desenvolvimento Científico e Tecnológico, Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro.

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Keywords: Cisgender men who have sex with men (MSM); Transgender and non-binary individuals (TGNB); Discrimination; Race; Gender; Sexual orientation; Brazil; Latin America & Caribbean

Introduction

Whatever forms discrimination may take, its primary purpose is to promote the unequal distribution of power and access to resources among historically dominant and subordinate groups.¹ In Brazil and many other countries around the globe, gay, bisexual, and other cisgender men who have sex with men (MSM) and transgender and non-

binary individuals (TGNB) are systematically subjected to discrimination, which has a negative impact on their quality of life and life expectancy.^{2,3} According to the Minority Stress Theory model, as proposed by Brooks,⁴ popularized by Meyer,⁵ and recently extended to transgender and gender non-conforming individuals,⁶ discrimination and violence interact with proximal

*Corresponding author. Instituto Nacional de Infectologia Evandro Chagas, Fundação Oswaldo Cruz, Av. Brasil 4365, Manguinhos, Rio de Janeiro 21040-900, Brazil.

E-mail address: paula.luz@ini.fiocruz.br (P.M. Luz).

Translation: For the Portuguese translation of the abstract see [Supplementary Materials](#) section.

The Lancet Regional
Health - Americas
2024;33: 100737
Published Online xxx
<https://doi.org/10.1016/j.lana.2024.100737>

Research in context

Evidence before this study

We searched PubMed using the terms “discrimination” and (“race” or “ethnicity” or “skin color”) and (“sexual and gender minorit*” or “men who have sex with men” or “transgender” or “gender non-conforming”) and (“Brazil” or “Latin America”) on August 10, 2023, in addition to reviewing reference lists of relevant articles. We focused on research pertaining to the prevalence of discrimination among gay, bisexual, and other men who have sex with men (MSM), and transgender and non-binary individuals (TGNB) in Latin America, with a particular emphasis on the experiences of and perceived reasons for discrimination according to race. Prior work with MSM and TGNB individuals focused only on discrimination due to one’s sexual orientation or gender identity. Results from a survey conducted in 2016 in 12 Brazilian capital cities among MSM showed that discrimination against one’s sexual orientation is highly prevalent, affecting two-thirds of participants. Studies focusing on gender-based discrimination among transgender people in Brazil have shown that transphobia is even more prevalent and that it is perpetrated by multiple actors (family members, strangers, police officers, among others) and in diverse settings (including healthcare). Moreover, gender-based discrimination was shown to negatively impact transgender women’s access to health, increasing their vulnerability to HIV, and often leading to violence. Though the results of these studies are of great significance, prior work was undertaken with instruments that measure only one form of discrimination. By design, these studies focused on experiences of discrimination due to sexual orientation or gender and did not allow for other reasons to be simultaneously reported. Additionally, prior work has not focused on the experiences of discrimination among MSM and TGNB individuals according to race.

Added value of this study

Our work significantly adds to a still scarce body of literature from Brazil. We were careful to employ a validated scale of day-to-day experiences with discrimination and to explore multiple, intersecting axes of discrimination. Research on

discrimination and health among Brazilian MSM and TGNB individuals has predominantly been characterized by a narrow focus. Prior studies primarily addressed specific forms of discrimination, often neglecting the complex interplay of multiple identities such as race, gender, sexuality, and socio-economic status. This approach presents important challenges. Colonialism in Brazil is characterized by slavery of individuals from African countries, and Brazilian society is founded on a racist structure. Furthermore, from a respondent’s perspective, disentangling their multiple targeted attributes is often unattainable; analytically, intersectional relationality suggests that considering the isolated effects of one form of discrimination might not capture the full breadth of an individual’s experience. In this study, we used the Explicit Discrimination Scale (EDS), which considers a range of contexts, such as personal (family and relationships) and public anonymous interactions and allows participants to attribute their experiences of discrimination to one or more reasons (e.g., sexual orientation and gender, race, social class, weight, age, and place of residence, among others). As a result, our study provides a more comprehensive assessment of discriminatory experiences among MSM and TGNB individuals and, importantly, shows that the burden of discrimination is heaviest among Black Brazilians.

Implications of all the available evidence

In Brazil, experiences of discrimination due to sexual orientation and gender significantly impact the lives of MSM and TGNB individuals. Yet, we found that the burden of discrimination is not the same across race-based groups, with Black individuals reporting higher perceived discrimination. Additionally, among Black participants, race was both the main reason for and the strongest predictor of discrimination score. Our results suggest that racism plays a major role in the lived discriminatory experiences of Black MSM and TGNB individuals. Achieving equitable care and opportunity for MSM and TGNB individuals hinges on an intersectional understanding of discriminatory experiences.

(i.e., anticipation and expectation of stressors and constant vigilance) and internalized stressors (i.e., internalization of negative attitudes) to negatively impact an individual’s mental health as well as other health outcomes.

Discrimination stems from multiple axes of inequality which “structure individuals’ experiences of mistreatment as well as the identities individuals use to interpret these experiences”.⁷ The intersections of one’s identity as MSM and TGNB individuals with other identities will shape one’s experiences of discrimination. In Brazil, MSM and TGNB frequently experience discrimination based on their gender identity and sexual orientation, including high rates of violence and

homicide.⁸ These individuals may be additionally impacted by discrimination related to other identities, such as race, social class, or place of origin.⁹ The complex interplay between these identities should be considered, as they reflect broader systems of oppression that intersect with each other and operate on multiple conceptual levels.^{10–12}

Empirical research often confines itself to examining singular forms of discrimination, such as race, gender, or social class-based mistreatment, disregarding the intersections and co-occurrence of these forms of unfair treatment. This limitation stems from the use of tools and theoretical frameworks focusing only on racism, sexism,

or classism. While these studies unveil the widespread and unequal distribution of discrimination among diverse social categories, further nuance may be captured by adopting an intersectionality perspective. In Brazil, recent studies have demonstrated the benefits of instruments that consider shared experiences at the intersections of race, gender, sexual orientation, and other axes of inequality.^{13,14} However, no previous investigation has focused on MSM and TGNB, examining the varying salience of specific forms of discrimination, such as racism.

Racial discrimination perpetuates inequalities among racial groups.¹⁵ Similar to other countries in Latin America, Brazil's population stems from three primary ancestral groups: Africans, Europeans, and Indigenous peoples. Brazil has the largest population of African descent outside of Africa. Colonialism in Brazil, founded in the transatlantic slave trade, deeply impacted the country, which was the last in the Western world to abolish slavery in 1888. It is estimated that over 4 million Africans were brought to Brazil during the period of the transatlantic slave trade, a number significantly higher than any other country in the Americas.¹⁶ The Afro-Brazilian population has historically faced and continues to face various forms of social, economic, and racial discrimination. Over time, systemic racism has endured, as reflected in economic disparities and social vulnerability for Black and Indigenous populations. This has resulted in poorer educational and employment opportunities, substandard housing, lower wages, inadequate healthcare, psychosocial stress, political marginalization, environmental injustices, and related forms of violence.^{15,17} In Brazil and other settings where racial characteristics impacts the daily experiences of non-white individuals, race is not a biological construct but a social one, and this construct captures the impact of racism.¹⁸ Ultimately, racism jeopardizes the possibility of several opportunities, including access to health care, which directly contributes to worse health outcomes for Black compared to White Brazilians.^{14,19}

In Brazil, assessing the impact of discrimination among MSM and TGNB individuals is imperative, as it can provide valuable information to tailor public policies that foster social equity. Moreover, when examining additional factors contributing to discrimination against MSM and TGNB, it is essential to employ an intersectional framework. This study explores the frequency of and perceived reasons for experiences of differential treatment among MSM and TGNB using race as a stratification variable. The aim is to understand the extent to which different racial groups experience discrimination and the factors associated with a higher burden of discrimination by race.

Methods

Study design

A convenience sample of MSM and TGNB recruited through dating apps (Grindr, Hornet and Scruff) and

social media (Facebook and Instagram) from November 2021 to January 2022 completed a cross-sectional, web-based survey. The open survey was administered via Alchemer® (<https://www.alchemer.com/>). Requests for voluntary survey completion were sent through direct message inbox for Hornet, banners for Scruff and Grindr, and boosted posts for Facebook and Instagram, following approaches conducted in prior studies.^{20,21} The survey was in Portuguese and all items included a non-response option. Respondents were able to change/review answers and did not receive compensation for participation, as per Brazilian regulations. Usability and technical functionality in different personal computers and mobile phones' operating systems were confirmed before survey administration. Only one response per internet protocol (I.P.) address was allowed.

Study population

We excluded respondents who a) did not provide electronic informed consent, b) identified as cisgender women, c) identified as cisgender men but reported never having sex with men, d) reported living abroad, e) incorrectly answered any of the five attention questions,²² or f) did not complete the questionnaire (Fig. 1). The overall study population included adult (≥ 18 years-old), MSM and TGNB individuals living in Brazil.

Variables

Demographic characteristics and HIV status

Respondents were asked about sociodemographic characteristics, including age, race, gender, sexual orientation, education, income, and Brazilian state of residence. Race was classified according to the categories defined by the Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística, IBGE): Asian which includes people who identify as Asian or of Asian descent, such as Japanese, Chinese, Korean, and others; Black which includes people who

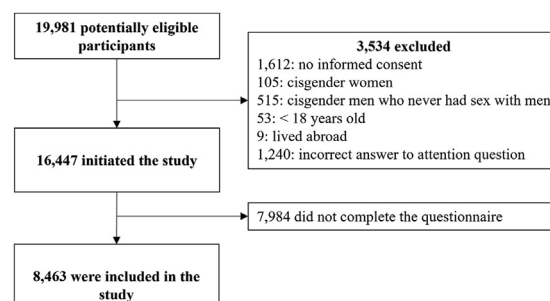


Fig. 1: Study flowchart detailing the number of participants that accessed, initiated, and completed the cross-sectional, internet-based survey among gay, bisexual, and other cisgender man who have sex with man, and transgender and non-binary individuals in Brazil, November 2021 to January 2022.

identify as Black or of African descent; Indigenous which includes people who identify as Indigenous, belonging to one or more of the several Indigenous ethnic groups in Brazil; *Pardo* which includes people who identify as mixed race or multiracial, with a combination of Black, Indigenous or White ancestry; and White which includes people who identify as White or of European descent. *Pardo* is the official term for admixed populations in Brazil, literally meaning a shade of skin colour somewhere between Black and White. Sexual orientation was collected as gay or homosexual, bisexual, heterosexual and other (e.g., pansexual, asexual, or demisexual). Education was categorized as elementary, secondary, and higher than secondary. Family monthly income was asked in relation to the minimum monthly wage, which was BRL 1,212 in 2021, equivalent to USD 212. We grouped no salary, 1×, and 2× the minimum wage as “low income,” >2–6× as “middle income,” and >6× as “high income.” Brazilian state of residence was collected and grouped according to the country’s administrative regions: north (seven states), northeast (nine states), central-west (three states and federal district), southeast (four states), and south (three states).

Explicit Discrimination Scale (EDS)

We used the 18-item Explicit Discrimination Scale (EDS) to measure experiences of day-to-day discrimination.²³ The EDS assesses perceived discrimination in 18 different circumstances and has an increased ability to address intersections between axes of inequality, such as race, social class, and sexual orientation. The EDS exhibits robust configural, metric, and scalar properties, as evidenced by prior psychometric studies.^{23–25} Scale items consistently load onto their respective dimensions with high reliability, effectively placing respondents along the latent trait continuum. Earlier research has also demonstrated that the EDS factor structure remains consistent when applied to diverse populations, extending from undergraduate students to community adults. This consistency holds true for both self-administered questionnaires and face-to-face interviews.

For each of the 18 circumstances, we used participants’ responses to four questions. Question 1 inquired participants about experiences of negative differential treatment, without defining a recall period. For example, for item 1 it asks: “Have you ever been mistaken for an employee of an establishment, when you were actually a customer?”²⁴ Response options across the 18 items were as follows (response [coding]): never [0], occasionally [1], frequently [2], always [3]. Responses to this first question across the 18-items were summed up yielding the participant’s differential treatment score, which could range from 0 to 54; higher scores indicated more experiences of differential treatment.

Secondly, participants who answered “occasionally,” “frequently,” or “always” in question 1 of any of the

18-items, were prompted to answer three more questions. Question 2 asked participants to indicate the main perceived reason for differential treatment with 14 pre-defined response options (race, social class, sexual orientation, gender, disease, age, housing location, accent, clothing, overweight, physical disability, appearance, political beliefs, and religion) and an “other” option which, if selected, prompted the participant to type the response. In question 3, participants were asked to indicate other perceived reasons for differential treatment (the same list with 14 pre-defined responses was shown); participants could select more than one option, as applicable. Variables were created from the responses to these two questions. Fifteen dummy variables were created to indicate the reporting (1) or not (0) of each of the reasons for differential treatment (race, social class, sexual orientation, gender, disease, age, housing location, accent, clothing, overweight, physical disability, appearance, political beliefs, religion, and other), be it a main or an additional reason, across the 18 items. The other variable, “number of reasons,” reflected the number of reasons participants used to interpret their experiences of differential treatment, including both the main and other reasons, across the 18 items. For example, if a participant reported experiencing differential treatment in item 1 and item 2 and cited as reasons for these experiences: item 1: main reason race, other reason sexual orientation, and item 2: main reason social class, other reasons race and gender, then, for this participant, the dummy variable for race, sexual orientation, social class and gender would be defined as Yes (1) and the 10 other reason indicator variables would be defined as No (0). Moreover, the “number of reasons” variable would assume the value of 4 (from the sum of the dummy variables race + sexual orientation + social class + gender).

Lastly, in question 4, participants were asked to indicate if differential treatment was perceived by them as discrimination (Yes or No). If Yes, responses to question 1, across the 18-items, were summed up yielding the participant’s discrimination score (range from 0 to 54, higher scores indicated more experiences of discrimination). The discrimination score was the outcome (or dependent variable) in the regression models described in the next section.

Statistical analysis

Given that our primary objective is to understand perceived discrimination as they are experienced by each racial group, all analyses consider race as a stratification variable. We first describe the characteristics of the study population stratified by race. Continuous variables were described by mean (standard deviation), median (interquartile range), and range. Categorical variables were described by absolute and relative frequencies. Mean differential treatment and discrimination scores with standard deviation (SD) were calculated,

stratified by race. Because of the small number of Asian ($n = 103$) and Indigenous ($n = 73$) participants, or those who preferred not to answer ($n = 129$), all subsequent analyses consider comparisons between White, *Pardo*, and Black participants only. Graphically, we show the percentage of participants who reported differential treatment in each of the 18 items dichotomized into “No” (never) and “Yes” (occasionally, frequently or always). We further describe the reported reasons for the experiences of differential treatment (either main or additional) across the 18 items and the percentage of participants citing race as a reason across the 18 items.

As described in the previous section, our outcome of interest was the discrimination score, a discrete, positive, count variable. Using regression models, we examined which factors predicted the discrimination score. We initially tested whether using Poisson regression would be appropriate, but a test indicated overdispersion thus supporting the use of the negative binomial regression models. Accordingly, we first used a negative binomial regression model to assess if race was a significant predictor of discrimination score, while adjusting for other socio-demographic factors and HIV-status. Given that race was highly predictive of discrimination score, we again used negative binomial regression models, stratified by race, to quantify the associations of each perceived reason (14 dummy variables, one for each reason) and of “number of reasons” with discrimination score, while adjusting for socio-demographic factors and HIV-status. Because model coefficients reflect the amount of change in the logarithm of the predicted discrimination score for a one-unit change in the predictors, we report exponentiated model results (coefficients and 95% confidence intervals). A p -value of 0.05 or less was assumed as an indicator of a statistically significant association.

Ethics

This study received approval from the human subjects’ ethics committee at Instituto Nacional de Infectologia Evandro Chagas of Fundação Oswaldo Cruz (#CAAE 01777918.0.0000.5262). All study participants provided electronic informed consent before survey initiation. No personally identifiable information was collected, except for I.P. address.

Role of the funding source

Funders did not have any role in the study design, data collection, data analysis, interpretation, or writing of this report.

Results

A total of 19,981 individuals accessed the survey and 3534 (17.7%) did not meet inclusion criteria (Fig. 1). Of the 16,447 individuals who initiated the survey, 8463 (51.5%) completed it and were therefore included in this study. Among these, most were recruited on Hornet

(44.1%), followed by Scruff (26.4%), Grindr (21.4%) and Facebook/Instagram (8.1%). Considering the total number of participants who initiated the survey as a function of the number of clicks, this percentage was highest for Scruff (35.8%) and lowest for Grindr (6.3%) (Supplementary Table 1). Inclusion efficacy, or the number of participants who completed the survey as a function of the number of participants who initiated it, was highest for Scruff (67.1%) and lowest for Facebook/Instagram (43.5%) (Supplementary Table 1).

Sociodemographic information for the 8463 study participants is presented in Table 1. Mean age was 37.1 years (median 26, interquartile range [IQR]:29–44). Study participants were predominantly cisgender men (97.6%), and most identified as gay or homosexual (83.6%). The percentage of participants reporting secondary education or less and low income was 25.8% and 23.3%, respectively. Most participants reported HIV-negative status (67.3%), 25.7% reported living with HIV, and 7.0% did not know their HIV status.

Of the 8463 participants, 4961 (58.6%) were White, 2173 (25.7%) *Pardo*, 1024 (12.1%) Black, 103 (1.2%) Asian, 73 (0.9%) Indigenous, and 129 (1.5%) preferred not to respond (Table 1). Black participants were younger, 34.7% reported secondary education or less and 36.1% reported low income (among White participants, the corresponding percentages were 21.4% and 17.6%). As for sexual orientation, Black participants were more likely to report as bisexual (16.3% compared to 11.1% of White participants). The overall mean (SD) differential treatment score was 7.7 (6.7), and the discrimination score was 6.2 (6.7), out of a 54-maximum score (Table 1). Differential treatment and discrimination scores were higher among Black than *Pardo* and White participants (Table 1).

Across the 18 items, differential treatment was most reported in items 13 (“Called names you do not like”) and 1 (“Mistaken for an employee”), while least in items 18 (“Treated disrespectfully in health services”) and 5 (“Physically assaulted by policemen”) (Fig. 2 and Supplementary Table 2). Black participants were more likely to report differential treatment than *Pardo* and White participants in 15 items. The largest percentage difference, when comparing Black to White participants, was for item 4 (“Watched, chased or arrested by policemen”) 69.1% vs. 18.1%, item 2 (“Treated disrespectfully in public places”) 68.0% vs. 32.1%, and item 1 (“Mistaken for an employee”) 81.1% vs. 47.1% (Fig. 2 and Supplementary Table 2).

Among all participants, the main reasons for differential treatment were race, social class, and sexual orientation (Supplementary Table 3). Black participants reported race as the main reason for discrimination in 15 of the 18 items. For the remaining 3 items (12: “Treated disrespectfully by close relatives;” 13: “Called names you do not like;” and 16: “Excluded/left out by people in the neighbourhood”), sexual orientation was

	White	Pardo	Black	Asian	Indigenous	Prefer not to respond	Total
Number of participants	4961	2173	1024	103	73	129	8463
Age							
Mean (SD)	38.3 (11.1)	36.0 (9.7)	33.9 (9.0)	35.7 (9.3)	36.3 (10.0)	36.7 (9.9)	37.1 (10.6)
Median (IQR)	37 (30, 45)	35 (29, 42)	32 (27, 39)	36 (31, 42)	35 (29, 42)	36 (29, 42)	36 (29, 44)
Age groups							
18–24	420 (8.5)	220 (10.1)	131 (12.8)	7 (6.8)	8 (11.0)	15 (11.6)	801 (9.5)
25–35	1838 (37.0)	916 (42.2)	503 (49.1)	39 (37.9)	31 (42.5)	46 (35.7)	3373 (39.9)
35+	270 (54.5)	1037 (47.7)	390 (38.1)	57 (55.3)	34 (46.6)	68 (52.7)	4289 (50.7)
Gender							
Cisgender man	4857 (97.9)	2130 (98.0)	988 (96.5)	99 (96.1)	68 (93.2)	122 (94.6)	8264 (97.6)
Transgender man	9 (0.2)	7 (0.3)	4 (0.4)	0 (0)	0 (0)	0 (0)	20 (0.2)
Transgender woman	7 (0.1)	4 (0.2)	4 (0.4)	2 (1.9)	1 (1.4)	0 (0)	18 (0.2)
Travesti	3 (0.1)	5 (0.2)	0 (0)	0 (0)	0 (0)	0 (0)	8 (0.1)
Non-binary	85 (1.7)	27 (1.2)	28 (2.7)	2 (1.9)	4 (5.5)	7 (5.4)	153 (1.8)
Sexual Orientation							
Gay or Homosexual	4265 (85.9)	1752 (80.6)	806 (78.7)	90 (87.4)	52 (71.2)	100 (77.5)	7065 (83.5)
Bisexual	552 (11.1)	352 (16.2)	167 (16.3)	12 (11.7)	16 (21.9)	18 (14)	1117 (13.2)
Heterosexual	48 (1.0)	23 (1.1)	12 (1.2)	0 (0)	1 (1.4)	2 (1.6)	86 (1.0)
Other ^a	93 (1.9)	43 (2.0)	37 (3.6)	1 (1.0)	4 (5.5)	9 (7.0)	187 (2.2)
Missing	3 (0.1)	3 (0.1)	2 (0.2)	0 (0)	0 (0)	0 (0)	8 (0.1)
Education							
Elementary	94 (1.9)	86 (4.0)	34 (3.3)	3 (2.9)	4 (5.5)	7 (5.4)	228 (2.7)
Secondary	969 (19.5)	591 (27.2)	322 (31.4)	10 (9.7)	30 (41.1)	33 (25.6)	1955 (23.1)
Post-secondary	3883 (78.3)	1486 (68.4)	660 (64.5)	88 (85.4)	37 (50.7)	88 (68.2)	6242 (73.8)
Missing	15 (0.3)	10 (0.5)	8 (0.8)	2 (1.9)	2 (2.7)	1 (0.8)	38 (0.4)
Income^b							
Low (0–2 MW)	874 (17.6)	654 (30.1)	370 (36.1)	10 (9.7)	35 (47.9)	31 (24.0)	1974 (23.3)
Middle (>2–6 MW)	2159 (43.5)	963 (44.3)	453 (44.2)	49 (47.6)	27 (37.0)	46 (35.7)	3697 (43.7)
High (>6 MW)	1735 (35.0)	488 (22.5)	182 (17.8)	36 (35)	9 (12.3)	38 (29.5)	2488 (29.4)
Missing	193 (3.9)	68 (3.1)	19 (1.9)	8 (7.8)	2 (2.7)	14 (10.9)	304 (3.6)
Region of Brazil							
North	55 (1.1)	53 (2.4)	9 (0.9)	2 (1.9)	3 (4.1)	3 (2.3)	125 (1.5)
Northeast	342 (6.9)	357 (16.4)	165 (16.1)	3 (2.9)	12 (16.4)	13 (10.1)	892 (10.5)
Central-west	259 (5.2)	177 (8.1)	63 (6.2)	3 (2.9)	5 (6.8)	10 (7.8)	517 (6.1)
Southeast	3563 (71.8)	1416 (65.2)	725 (70.8)	87 (84.5)	44 (60.3)	91 (70.5)	5926 (70.0)
South	742 (15)	170 (7.8)	62 (6.1)	8 (7.8)	9 (12.3)	12 (9.3)	1003 (11.9)
HIV status^c							
Negative	3361 (67.8)	1430 (65.8)	688 (67.2)	78 (75.7)	49 (67.1)	88 (68.2)	5694 (67.3)
Positive	1262 (25.4)	586 (27.0)	261 (25.5)	19 (18.4)	18 (24.7)	32 (24.8)	2178 (25.7)
Unknown	337 (6.8)	156 (7.2)	75 (7.3)	6 (5.8)	6 (8.2)	9 (7.0)	589 (7.0)
Missing	1 (0.0)	1 (0.0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0.0)
Differential Treatment Score							
Mean (SD)	6.7 (5.9)	8.1 (6.8)	11.3 (8.4)	7.0 (5.8)	8.8 (8.1)	8.2 (6.3)	7.7 (6.7)
Discrimination Score							
Mean (SD)	5.2 (5.7)	6.5 (6.8)	10.2 (8.8)	5.4 (5.6)	7.3 (8.2)	6.4 (6.3)	6.2 (6.7)

Unless otherwise specified, absolute number and percentages by column are provided. SD: standard deviation; IQR: interquartile range; MSM: gay, bisexual, and other cisgender man who have sex with man; TGNB: transgender and non-binary individuals. ^aPansexual, asexual, demisexual, other. ^bFamily monthly income based on minimum wage (MW) which was BRL 1212.00 in 2021 (US 242.00). ^cSelf-reported. Missing information provided for all variables that had missing data.

Table 1: Socio-demographic characteristics, HIV-status, and scores for differential treatment and discrimination overall and stratified by race in the cross-sectional, internet-based survey among MSM and TGNB in Brazil, November 2021 to January 2022.

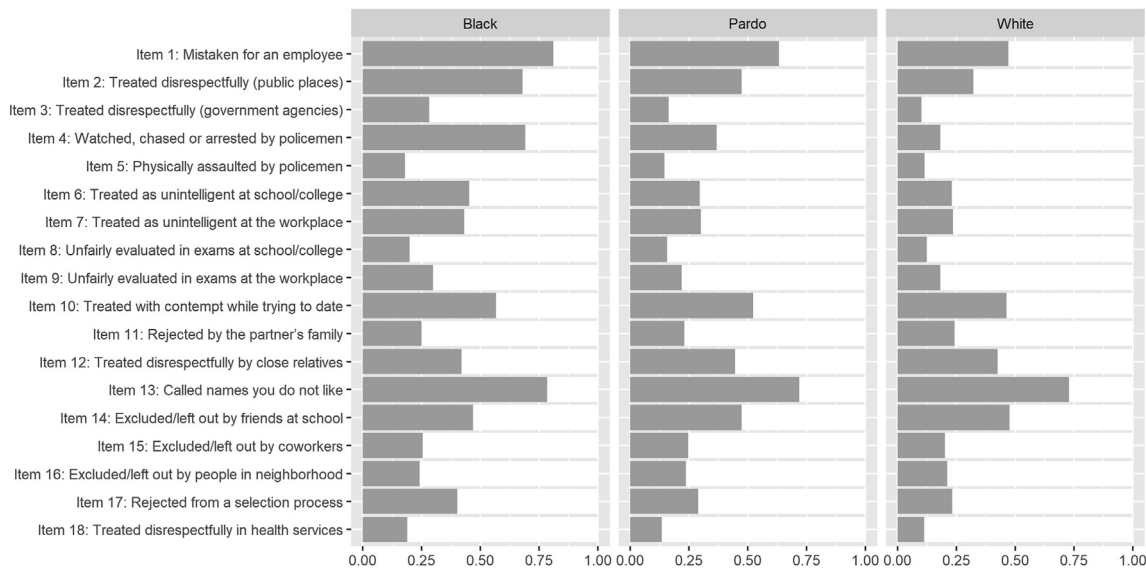


Fig. 2: Proportion reporting ever experiencing differential treatment in each of the 18-items, dichotomized into “No” (never, in white) and “Yes” (occasionally, frequently or always, in grey), stratified by race in the cross-sectional, internet-based survey among gay, bisexual, and other cisgender man who have sex with man, and transgender and non-binary individuals in Brazil, November 2021 to January 2022.

reported as the main reason for differential treatment. In contrast, sexual orientation or social class were selected as the main reason for differential treatment among White and Pardo participants for all items, except item 1 (“Mistaken for an employee”), where

clothing was reported as the main reason and item 10 (“Treated with contempt while trying to date”), where overweight was cited as the main reason.

For all three races, the mean number of reasons for the experiences of differential treatment was greater than 2, except for item 1 (“Mistaken for an employee”) (Supplementary Table 4). When stratified by race, the mean number of reasons for the experiences of differential treatment was higher for Black followed by Pardo and White participants. Among Black participants, the number of reasons for the experiences of differential treatment was highest for items 6 (“Treated as unintelligent at school/college”), 9 (“Unfairly evaluated in exams at the workplace”), and 10 (“Treated with contempt while trying to date”).

Regardless of the item, sexual orientation was frequently reported as a reason for the experienced differential treatment across the three racial groups (~73%) (Table 2). Most Black participants (90.5%) reported race as a reason for experiences of differential treatment. Social class, housing location, and religion were more frequently reported by Black participants than Pardo and White participants, while clothing, appearance or other reasons were more frequently reported by White participants.

When examining experiences of differential treatment within healthcare services (item 18), Black participants reported these experiences at higher frequency (18.9%), in contrast to 13.3% for Pardo and 11.2% for White participants (Supplementary Table 2). The reasons for these experiences also differed by race with Black participants attributing differential treatment to

	White	Pardo	Black
Number of participants	4961	2173	1024
Reason (yes, %)			
Race	281 (5.7)	1016 (46.8)	927 (90.5)
Social class	2118 (42.7)	1316 (60.6)	710 (69.3)
Sexual Orientation	3687 (74.3)	1557 (71.7)	744 (72.7)
Gender	1105 (22.3)	543 (25.0)	258 (25.2)
Disease	310 (6.2)	145 (6.7)	40 (3.9)
Age	1579 (31.8)	762 (35.1)	347 (33.9)
Housing location	721 (14.5)	503 (23.1)	258 (25.2)
Accent	1040 (21.0)	571 (26.3)	214 (20.9)
Clothing	771 (15.5)	290 (13.3)	54 (5.3)
Overweight	1072 (21.6)	438 (20.2)	204 (19.9)
Physical disability	102 (2.1)	60 (2.8)	33 (3.2)
Appearance	483 (9.7)	187 (8.6)	38 (3.7)
Political Beliefs	960 (19.4)	389 (17.9)	182 (17.8)
Religion	535 (10.8)	296 (13.6)	177 (17.3)
Other	1367 (27.6)	441 (20.3)	136 (13.3)

MSM: gay, bisexual, and other cisgender man who have sex with man; TGNB: transgender and non-binary individuals.

Table 2: Reported reasons (absolute numbers and percentages) for the experiences of differential treatment across the 18-items of the Explicit Discrimination Scale stratified by race in the cross-sectional, internet-based survey among MSM and TGNB in Brazil, November 2021 to January 2022.

	Main model	Race-stratified models		
		White	Pardo	Black
Race				
Black	1.82 (1.70-1.95) ¹	NA	NA	NA
Pardo	1.24 (1.17-1.31) ¹	NA	NA	NA
White	Ref.	NA	NA	NA
Age (per 1-year increase)	0.99 (0.99-0.99)¹	1.00 (1.00-1.00)	1.00 (1.00-1.00)	1.01 (1.00-1.01)³
Gender				
Cisgender men	Ref.	Ref.	Ref.	Ref.
Transgender individuals	2.42 (1.83-3.27) ¹	1.92 (1.37-2.75) ¹	2.11 (1.47-3.10) ¹	1.64 (0.97-2.95)
Non-binary individuals	1.58 (1.34-1.88) ¹	1.39 (1.16-1.67) ¹	1.12 (0.84-1.51)	1.23 (0.91-1.70)
Sexual Orientation				
Gay and other ^a	1.13 (1.05-1.20) ¹	1.02 (0.93-1.10)	1.13 (1.02-1.25) ³	1.02 (0.90-1.16)
Bisexual and heterosexual	Ref.	Ref.	Ref.	Ref.
Education				
Elementary	0.85 (0.73-0.99) ³	1.11 (0.91-1.36)	1.01 (0.82-1.23)	1.03 (0.77-1.38)
Secondary	0.91 (0.86-0.96) ¹	1.00 (0.93-1.07)	0.91 (0.84-0.99) ³	0.92 (0.82-1.03)
Higher than secondary	Ref.	Ref.	Ref.	Ref.
Income^b				
Low (0-2 MW)	1.30 (1.21-1.39) ¹	1.10 (1.02-1.19) ³	1.12 (1.01-1.25) ³	0.91 (0.78-1.05)
Middle (>2-6 MW)	1.09 (1.03-1.15) ²	1.02 (0.96-1.08)	1.05 (0.95-1.15)	0.92 (0.80-1.04)
High (>6 MW)	Ref.	Ref.	Ref.	Ref.
Region of Brazil				
North	0.84 (0.69-1.03)	0.88 (0.68-1.14)	0.85 (0.65-1.11)	0.85 (0.51-1.48)
Northeast	0.96 (0.87-1.06)	0.92 (0.82-1.03)	0.87 (0.74-1.01)	0.86 (0.68-1.07)
Central-west	1.01 (0.90-1.13)	1.08 (0.96-1.23)	0.78 (0.65-0.93) ²	0.85 (0.65-1.12)
Southeast	1.02 (0.95-1.10)	0.99 (0.93-1.07)	0.90 (0.79-1.03)	0.97 (0.79-1.19)
South	Ref.	Ref.	Ref.	Ref.
HIV status				
Negative	Ref.	Ref.	Ref.	Ref.
Positive	1.05 (1.00-1.11)	0.93 (0.87-0.98) ³	1.02 (0.94-1.12)	0.96 (0.86-1.08)
Unknown	0.88 (0.80-0.97) ²	0.97 (0.87-1.08)	1.07 (0.93-1.23)	0.92 (0.76-1.12)
Reasons for differential treatment				
Race (ref. No)	NA	1.04 (0.94-1.16)	1.51 (1.39-1.63) ¹	2.41 (1.95-2.98) ¹
Social Class (ref. No)	NA	1.37 (1.28-1.45) ¹	1.39 (1.27-1.53) ¹	1.25 (1.10-1.43) ¹
Sexual Orientation (ref. No)	NA	2.22 (2.06-2.40) ¹	1.90 (1.72-2.09) ¹	1.41 (1.22-1.62) ¹
Gender (ref. No)	NA	1.33 (1.25-1.41) ¹	1.14 (1.05-1.24) ²	1.14 (1.01-1.28) ³
Disease (ref. No)	NA	1.56 (1.41-1.72) ¹	1.22 (1.06-1.40) ²	1.35 (1.06-1.74) ³
Age (ref. No)	NA	1.07 (1.01-1.13) ³	0.96 (0.89-1.04)	0.91 (0.82-1.02)
Housing location (ref. No)	NA	1.07 (0.99-1.15)	1.13 (1.03-1.23) ³	1.19 (1.05-1.34) ²
Accent (ref. No)	NA	1.22 (1.15-1.30) ¹	1.22 (1.12-1.32) ¹	1.13 (1.00-1.28) ³
Overweight (ref. No)	NA	1.16 (1.09-1.23) ¹	1.19 (1.09-1.30) ¹	1.20 (1.06-1.36) ²
Physical Disability (ref. No)	NA	1.30 (1.10-1.54) ²	1.15 (0.94-1.42)	1.29 (1.00-1.69) ³
Political beliefs (ref. No)	NA	1.17 (1.10-1.25) ³	1.22 (1.11-1.34) ¹	1.15 (1.01-1.32) ³
Religion (ref. No)	NA	1.12 (1.04-1.22) ²	1.13 (1.02-1.25) ³	1.06 (0.93-1.21)
Count of reasons attributed to experiences of differential treatment				
1	NA	Ref.	Ref.	Ref.
2	NA	1.19 (1.08-1.31) ¹	1.61 (1.36-1.93) ¹	1.27 (0.97-1.67)

(Table 3 continues on next page)

race (56.2%), social class (17.2%), and sexual orientation (14.1%) whereas the percentages were 14.7%, 26.9%, and 31.8% for *Pardo*, and 0.5%, 14.9%, and 47.2% for White participants (Supplementary Table 3).

Table 3 shows the results of the negative binomial regression models. Results from the model that includes White, *Pardo*, and Black participants show that race was a significant predictor of perceived

	Main model	Race-stratified models		
		White	Pardo	Black
(Continued from previous page)				
3	NA	1.43 (1.29-1.57)¹	2.13 (1.78-2.54)¹	1.47 (1.11-1.94)²
4+	NA	1.60 (1.43-1.80)¹	2.06 (1.70-2.50)¹	1.33 (0.97-1.81)

Regression models focused only on participants of Black, Pardo or White race who reported at least one experience of differential treatment, meaning that, out of 8463 participants, 451 were excluded because they did not report any experience of differential treatment and 294 were excluded because they self-identified as Asian, Indigenous or preferred not to respond. Moreover, regression models included only participants with complete information, such that the number of participants in each model were: Main model: 7718, 295 excluded due to missing information; White participants only model, N = 4650, 193 excluded due to missing information; Pardo participants only model, N = 2065, 75 excluded due to missing information; Black participants only model, N = 1003, 28 excluded due to missing information. Bold: ¹p < .001; ²p < .001; ³p < .005. MSM: gay, bisexual, and other cisgender man who have sex with man; TGNB: transgender and non-binary individuals. ^aPansexual, asexual, demisexual, other. ^bFamily monthly income based on minimum wage (MW) which was BRL 1212.00.

Table 3: Results from the negative binomial regression models (exponentiated model coefficients and respective 95% confidence intervals) used to evaluate which factors predict discrimination score in the cross-sectional, internet-based survey among MSM and TGNB in Brazil, November 2021 to January 2022.

discrimination: the mean discrimination score among Black participants was 1.82 (95% confidence interval [CI]: 1.70–1.95) times higher than that of White participants (reference category). Additionally, the discrimination score among transgender and non-binary individuals were significantly higher than that of cisgender men (Table 3). The discrimination score among participants with elementary education was significantly lower than that of participants with higher than secondary education, whereas discrimination score among participants with low income was significantly higher than that of participants with high income.

Race-stratified models, where the participants' perceived reasons for the experiences of differential treatment were included, showed that several reasons were significant predictors of the discrimination score across the three races, including social class, sexual orientation, and gender (Table 3). Among Black and Pardo participants, discrimination score was significantly higher among participants who cited race as a reason for the experience of differential treatment when compared to participants who did not cite this reason. Indeed, with largest effect size, the discrimination score among Black participants who attributed their experience of differential treatment to race was 2.41 (95% CI 1.95–2.98) times higher than that of Black participants who did not invoke this reason. The “number of reasons” that participants used to interpret their discriminatory experiences was also a significant predictor of discrimination score. Results from the three race-stratified models showed that as the number of reasons increases, so does the mean discrimination score. The magnitude of the coefficients for the variable “number of reasons” was highest among Pardo participants.

Discussion

In this study, we assessed perceived discriminatory experiences of over eight thousand MSM and TGNB participants, though the sample was predominantly

composed of cisgender MSM. Differential treatment and discrimination scores were higher among Black participants, suggesting that they likely experienced discrimination throughout their life to a higher extent. Among MSM and TGNB participants reporting differential treatment, seven out of ten participants mentioned their sexual orientation as a perceived reason for it. Nevertheless, among Black participants, race was the strongest determinant of perceived discrimination. For all participants, the higher the number of reasons for the differential treatment, the higher were the discrimination scores, though this effect was most pronounced among Pardo participants. Our study enhances research on perceived discrimination among MSM and TGNB individuals by using instruments and methodological approaches that follow an intersectionality perspective. Measuring experiences at the intersections of multiple axes of inequality and providing visibility to groups most impacted by oppression necessitates the design and implementation of truly inclusive tools.

Our results showed that the toll of experiences of differential treatment was significantly higher for Black participants (an average of 3 points higher than for Pardo participants and an average of 5 points higher than for White participants). Moreover, results from the regression models where perceived discrimination was the dependent variable indicated that among Black participants, race was the predictor with the greatest coefficient. Overall, the most frequently reported experience of differential treatment was item 13 (“Called names you do not like”); sexual orientation was the most frequent reason for this particular item among all three racial groups. Among Black participants, despite 43.8% reporting sexual orientation as a reason in item 13, still 40.5% also mentioned race as a reason for experiencing it, differently from White and Pardo participants. Black participant's reports of experiences of differential treatment in items 4 (“Watched, chased or arrested by policemen”), 2 (“Treated disrespectfully in public places”), and 1 (“Mistaken for an employee”) were much higher

than those experienced by other racial groups. The literature suggests that these are not isolated incidents in the lives of Black Brazilians but rather indicators of a pervasive system of institutional and structural racism that impacts their everyday lives,^{26,27} ultimately affecting access to healthcare and health outcomes.^{14,28} Systemic biases extend beyond healthcare to other vital social institutions, including law enforcement and public services, and are interconnected within a broader social and political framework that perpetuates inequality and marginalization.

Our results also showed that sexual orientation was frequently reported (~70%) as a perceived reason for experiences of differential treatment among White, *Pardo* and Black participants. This finding suggests that if we had asked about experiences of discrimination “because of one’s sexual orientation,” then it is likely that participants of all races would have reported these experiences to a similar degree. Prior work assessing the prevalence of discrimination due to sexual orientation suggests that MSM and TGNB individuals, irrespective of race, face significant hurdles. A 2016 survey conducted in 12 Brazilian state capitals among MSM asked participants about experiences of discrimination due to one’s sexual orientation in 13 day-to-day situations; results showed that discrimination was highly prevalent, at 64% among 4176 participants.²⁹ Moreover, about one-fifth reported having suffered physical violence (23.5%), or sexual assault (21%) in their lives.²⁹ A similar study conducted in 2009 reported much lower frequencies of discrimination (27%) though assessment of discrimination was based on only one item.³⁰ Together with these previous results, our findings suggest that discrimination against MSM and TGNB individuals is an urgent matter in Brazil. Furthermore, while exploring inequities involved in the production of LGBTQIA+phobia, other vulnerabilities seem to play a role in stigma and discrimination, pushing towards the importance of further understanding this scenario through the lens of health and social justice.³¹

Another important finding from our study was the consistently higher number of reasons for the experiences of discrimination among Black, followed by *Pardo* and lastly by White participants. Also, results from the race-stratified regression models showed that as the number of reasons for the experiences of differential treatment increased, so did the discrimination scores, with the magnitude of the coefficients being higher for *Pardo* participants. The “myth of racial democracy,” a term often used to describe Brazil’s supposedly racial harmony, obscures these lived experiences of discrimination that included physical, sexual, and psychological violence, further perpetuating inequality by denying the very existence of systemic racism.^{32,33} Our results are consistent with the intersectional understanding of discrimination’s impact: Black and *Pardo* MSM and TGNB’s experiences of discrimination cannot be

evaluated solely through their identities as sexual and gender minorities but need to be recognized in conjunction with other oppressed identities, most notably race, but also beyond. Race and social class are deeply entangled categories, especially in Brazil, where the colonization process was marked by a strong ethnic and racial division of labour that is still present, with discrimination against Black and *Pardo* individuals perpetuating social inequities even after slavery abolition.³⁴

Lastly, we found that within healthcare services (item 18), experiences of differential treatment were more frequently reported by Black participants (18.9%, *Pardo* 13.3% and White 11.2%), among whom race was the most frequently cited reason. These results resonate with a 2013 National Health Service survey that assessed a representative sample of 59,249 Brazilian adults and showed that low-socioeconomic Black respondents were more likely to report difficulty accessing health services.¹⁴ Furthermore, another study based on data collected in three national surveys conducted in 2008 (PNAD: National Household Sample Survey), 2013 (PNS: National Health Survey) and 2019 (PNS) showed that, over time, Black individuals continue to consistently report greater difficulty accessing health services.²⁸ Our results further substantiate the existing evidence pointing to disparities in the distribution of health services across the population, which may be interconnected with various forms of oppression.³⁵ Conversely, institutional racism remains a pervasive issue within healthcare services, adversely affecting the physical and psychological health of Black individuals.^{36,37} The adverse impacts of racism on health access and outcomes might point to symptoms of broader and systemic issues that require comprehensive solutions.³⁷ For instance, National Policies for the Health Care of LGBTQIA+ and Black Populations were created in Brazil in 2013 and 2010^{38,39}; however, their implementation still face resistance from healthcare professionals and the society at large.⁴⁰

The adverse impact of discrimination on access to health care and health outcomes, particularly for Black individuals, has important public health implications. As hypothesized in many theoretical models of health behaviour,⁴¹ individuals who experience discrimination within healthcare services may choose to forgo future healthcare appointments. Such inequalities are observed in other health care domains as well, illustrating how discrimination might negatively impact health outcomes. In 2016, a respondent-driven-sampling study of over 500 transgender women conducted in three cities in the Northeast of Brazil found that perceived gender-based discrimination was associated with lower odds of attending medical visits and testing for HIV in the last 12 months.⁴² Discrimination within health care services may also impact prevention and treatment outcomes related to human immunodeficiency virus

(HIV), a sexually transmitted infection that disproportionately affects MSM and transgender women in Brazil.^{43–45}

Our study has strengths and limitations. A major strength of our study was the use of an instrument that allowed assessment of differential treatment experiences along multiple axes of inequality. Moreover, the instrument asks about day-to-day experiences taking place in various settings, from personal to public or anonymous interactions. As for limitations, we highlight that almost one in two participants did not complete the entire survey. The Explicit Discrimination Scale (18 items with 4 sub-questions each) together with the other sociodemographic and behaviour questions yielded quite a lengthy questionnaire and younger participants may have withdrawn from the study to a higher degree (mean age of participants in this online sample is higher than in previous similar studies conducted by our research group). Moreover, our sample might overrepresent individuals with higher socioeconomic status, given that access to an electronic device compatible with geosocial network apps and an internet data plan was necessary for study participation. Indeed, if we compare our sample to that reached in the 12-cities respondent-driven-sampling study conducted in 2016⁴⁶ we note that our sample was much older (only 9.5% aged <25 years compared to 56.1% in ⁴⁶) and with higher educational level (73.8% reported post-secondary education compared to 29.7% in ⁴⁶). Also, the racial composition of our sample (25.7% *Pardo*, 12.1% Black) was also much different from the 2016 study⁴⁶ (41.8% *Pardo*, 22.7% Black).

Conclusions

In Brazil, gender- and sexuality-based violence contributes to the systematic marginalization of MSM and TGNB individuals. Even within this context, our findings show that Black participants more frequently experienced discrimination compared to White and *Pardo* participants, among whom racism, rather than LGBTQIA+phobia, was the main driver of discrimination. To face and effectively address this physical, psychological, and social burden imposed by stigma and discrimination and to improve health outcomes for Black and *Pardo* MSM and TGNB individuals, structural and institutional forces that maintain and promote discriminatory ideologies need to be dismantled.⁴⁷ Actions to combat institutional LGBTQIA+phobia and racism within healthcare systems include restructuring of medical education to emphasize racial equity, enhancing data collection on health inequities, reviewing public policies to address the needs of marginalized communities, promoting active community participation in healthcare policy formulation, and leveraging communication platforms to raise awareness about the

significance of gender and racial equity in healthcare provision.³⁷

Contributors

LF, TST, and PML conceived the study. LF, TST, BH, and PML were responsible for data collection. TST and PML were responsible for data management and analysis. LF, TST, JLB, and PML wrote the first draft. BH, MSTS, VGV, and BG reviewed the manuscript for important intellectual content. All authors reviewed and approved the final version of the manuscript. TST and PML verified the data, had access to raw data and had final responsibility for the decision to submit the manuscript for publication.

Data sharing statement

Study's final deidentified dataset and dictionary will be made available with publication of the manuscript upon reasonable request. A proposal should be submitted to the corresponding author's e-mail, who will evaluate and approve the request. No additional documents will be made available.

Declaration of interests

The authors have no conflicts of interest to report.

Acknowledgements

We express our sincere gratitude to all study participants for their time and participation in this study. PML was supported by the National Council of Technological and Scientific Development (CNPq; #316401/2021-8) and Carlos Chagas Filho Foundation for Research Support in the State of Rio de Janeiro (FAPERJ; #E-26/201.133/2021). TST was supported by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001, CNPq (#402916/2021-2 and #311871/2021-6) and FAPERJ (#E-26/211.577/2021 and #E-26/201.270/2022). BH was supported by Programa Inova FIOCRUZ, Edital Geração do Conhecimento/VPPCB. BG was supported by CNPq and FAPERJ. JLB was partially supported by CNPq (Research Grant 303775/2021-1). These results were presented in part as an e-poster at AIDS Conference in July 2022 (abstract number EPF 117).

Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.j.lana.2024.100737>.

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