



"I Can't Take This Shitty Quarantine Anymore": Sexual Behavior and PrEP Use Among Young Men Who Have Sex with Men and Transgender Women in Brazil During the COVID-19 Pandemic

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Received: 15 July 2021 / Revised: 10 June 2022 / Accepted: 13 June 2022 / Published online: 26 July 2022
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Abstract

This study analyzes how the COVID-19 pandemic affected sexual behavior and use of HIV prevention methods among young transgender women (YTGW) and young gay, bisexual and other men who have sex with men (YGBMSM) participating in an HIV pre-exposure prophylaxis (PrEP) demonstration study in Brazil. Online interviews with 39 participants aged 15–22 years old were conducted between September and November 2020 and analyzed based on social constructionism and human rights-based approaches to health. The pandemic disrupted interviewees' routines, negatively affecting their life conditions. Among those who did not have a steady partner, social distance measures led to temporary interruption of sexual encounters and increased sexting and solo sex. Conversely, for those who had a steady relationship such measures contributed to increasing sexual practices and intimacy. Participants who had sexual encounters during the pandemic reported having continued to use PrEP. However, home confinement with family, lack of privacy, loss of daily routines and changes in housing impaired PrEP adherence and attendance at follow-up consultations. These results highlight the importance of maintaining HIV-service delivery for these groups during a public health crisis, as well as to address the structural drivers of the epidemic with comprehensive HIV prevention policies and by ensuring access of YGBMSM and YTGW to social protection policies.

Keywords HIV prevention · Pre-exposure prophylaxis · COVID-19 · Men who have sex with men · Transgender women

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Introduction

The COVID-19 pandemic is currently a major global health issue (World Health Organization, 2020) and Brazil is one of the most affected countries, with the second highest number of deaths globally (Worldometers, 2021). Besides being a health emergency in itself, the pandemic has hampered the response to other diseases by increasing the burden on health services, entailing a shortage of supplies, diversion of providers and financial resources, and reduction in service availability (Lassi et al., 2021; McMahon et al., 2020). Regarding the control of HIV and other sexually transmitted infections (STIs), in particular, the pandemic has disrupted HIV treatment and prevention programs, with patients facing difficulties to obtain antiretroviral therapy (ART) in South Africa (Nature editors, 2020), HIV services being converted to COVID-19 treatment centers in Russia (Adadi & Kanwugu, 2021), and young sexual minority men reporting difficulties in accessing HIV testing and PrEP in the USA (Hong et al., 2021).

The impact of the COVID-19 pandemic on the HIV epidemic in Brazil is particularly worrisome among groups that are most vulnerable to HIV, such as young gay, bisexual and other men who have sex with men (YGBMSM) and young transgender women (YTGW). HIV prevalence in the country is 18.4% among MSM (Kerr et al., 2018) and 31.2% among TGW (Grinsztejn et al., 2017), while in the general population it is estimated to be at 0.6%. Moreover, these are groups who struggle with violation of fundamental rights in Brazil, being frequently exposed to discrimination, violence and rejection (Malta et al., 2020), including from their families (Braga et al., 2018), which is known to negatively affect their health (Paulino et al., 2021) and increase their risk of HIV exposure (Magno et al., 2018).

Furthermore, in recent years, the epidemic has been growing among young people in Brazil: between 2005 and 2016, HIV incidence has almost tripled among men aged 15–19 (from 2.4 to 6.9 cases/100,000) and doubled among those aged 20–24 (from 15.9 to 33.1 cases/100,000) (Brasil. Ministério da Saúde, 2017). This epidemiological scenario suggests that even though Brazil has a legal basis that allows people to access health services without parental consent from the age of 12 (Brasil, 1990), young people have lower access to HIV services in the country. Indeed, the literature shows that this is the case in Brazil and other countries: for instance, people aged 18 to 24 are minority among PrEP users in Brazil (Barbosa et al., 2022), and those between 13 and 24 are the least likely to know their HIV status in the US (Centers for Disease Control and Prevention (CDC), 2022; Koenig et al., 2016).

Besides disrupting HIV service delivery, there is a growing body of evidence showing that the COVID-19 pandemic and the social distancing measures related to it have affected sexual behaviors and use of HIV prevention methods. Studies indicate that while casual sex decreased since the pandemic outbreak, solo sex practices, sexting and sex with primary partners increased (Casalheira et al., 2021; Döring, 2020; Harkness et al., 2021;

Li et al., 2020; Reyniers et al., 2020). Among young people in China, such changes have been associated with increased family supervision and less personal freedom (Li et al., 2020). Among men who have sex with men (MSM) in Israel, being young, single and having higher levels of mental distress were found to be predictors for engaging in casual sex during this period (Shilo & Mor, 2020). In the US, a study with sexual minority young men found that 38.9% of them had reduced sexual practices during the pandemic, while 13% reported an increase (Hong et al., 2021).

The pandemic has also limited the use of sexual health services and prevention methods. While in the UK there is evidence that it negatively affected access to and use of condoms and other contraceptive methods among young people (Lewis et al., 2021), in New Zealand it hampered access and use of sexual health services more broadly (Rose et al., 2021). Among adult MSM in Australia (Chow et al., 2020) and sexual minority populations in Brazil (Torres et al., 2021), sexual behavior changes have led to shifts in the use of PrEP: for the former, not engaging in casual sex (87%) was the main reason to stop taking daily PrEP, while for the latter sexual abstinence was one of the main reasons (39.7%). A reduction in PrEP use was also observed among young sexual minority men in the USA, with one in seven of those who were PrEP users stopping PrEP and one in five reporting difficulties accessing the medication during 2020 (Hong et al., 2021).

In this scenario, we can assume that the disruptions caused by the COVID-19 pandemic might worsen the already worrying situation of HIV among YGBMSM and YTGW in Brazil, affecting their sexual behavior, access to sexual health services and use of preventive methods. Currently, there is a lack of information on these topics in low- and middle-income countries, including Brazil. Aiming to contribute to overcome this knowledge limitation, in this paper we analyze how the COVID-19 pandemic affected the sexual behavior and use of PrEP and other HIV prevention methods among YGBMSM and YTGW participating in a PrEP demonstration study in two Brazilian state capitals—Salvador and São Paulo. To do so, we combine social constructionism (Bozon, 2018; Simon & Gagnon, 1999) and a human rights-based approach to health (Ayres et al., 2010; Gruskin et al., 2010) to analyze in-depth interviews done with these groups in the first months of the pandemic.

Method

COBra and PrEP1519 Studies

Data were collected as part of the study “Effects of the COVID-19 outbreak on the sexual and mental health of adolescent and adult men who have sex with men and transgender women participating in two PrEP cohort studies in Brazil (COBra Study)” (Ferraz et al., 2021). The COBra study aims to investigate such effects on participants of two HIV PrEP demonstration studies ongoing in Brazil:

PrEP1519, focused on YGBMSM and YTGW aged 15–19, and Combina, focused on adults aged 18 and over (Grangeiro et al., 2015). Here, we present findings from PrEP1519 participants, aiming to delve into the experiences of gender- and sexuality-diverse youth. Although the study population of PrEP1519 is defined as adolescents, in this paper we refer to participants as “young people” to be more consistent with how they identified themselves during interviews and with the social constructionist approach adopted.

PrEP1519 is a demonstration study that delivers PrEP and other HIV combination prevention methods to YGBMSM and YTGW aged 15–19 (at enrollment), who have a history of risk exposure (e.g., condomless sex, history of STI infection, use of PEP) or vulnerability to HIV (e.g., drug use, sex work or unstable housing). Enrollment in the cohort was from March 2019 to June 2021. To be enrolled, YGBMSM and YTGW could go to the study clinics independently or after being contacted by peer-educators on the internet (social networks, dating apps, and chatbot), at NGOs and at youth LGBTQIA+ social venues. They could participate in one of the study arms—PrEP or non-PrEP—according to their choice of prevention method and clinical evaluation. In both arms, participants were followed up quarterly with clinical evaluations, counseling, HIV and STI testing, and delivery of preventive methods. Follow-up can last up to 3 years (meaning that some participants may be followed-up until the age of 22). Peer-navigators helped to link participants to services by contacting them regularly, being available to talk by phone or messaging, and accompanying those who need follow-up consultations.

When data for the COBra study were collected, PrEP1519 had 587 participants in São Paulo and Salvador. Among those, 74% were in the PrEP arm, 91.0% were classified as YGBMSM and 9.0% as YTGW. Socio-behavioral data collected along the cohort show that about half (52.8%) of the participants reported having had two or more male sexual partners in the last six months, who they met through hook-up apps (56.7%) or at friends’ houses (17.7%), and 83% reported having had condomless sex in the same period of time.

During the COVID-19 pandemic, services continued to be delivered in-person for those who needed them, and alternative online consultations were implemented using videoconferencing, texting, and mailing PrEP pills and HIV self-tests to participants (Dourado et al., 2020). On-line recruitment also continued during this period.

Theoretical Approaches

We adopt a social constructionist approach to sexuality (Simon & Gagnon, 1999) and youth (Bozon, 2018). This means understanding youth as a social category marked by a series of events that contribute to the individuals’ autonomy and form a trajectory. Important milestones in young people’s trajectories are the completion of studies, beginning of working life, leaving the family home and sexual debut (27, 28). As these are related, the way

such processes unfold in each of these life domains—family, studies, work, and sexuality—will impact on the other domains. The learning of sexuality, for instance, implies a process of progressive autonomy from families, intensification of the relationship with peers, and creation of private spaces (26). Thus, in our analysis, we are interested in understanding how these different life domains were affected by the pandemic and influenced young people’s sexual behavior.

We are also guided by a human rights-based approach to health (Ayres et al., 2010; Gruskin et al., 2010). While recognizing the interdependence of all rights, we focus our attention on four essential elements of the right to health—the availability, accessibility, acceptability and quality of health services—aiming to understand how the restrictions imposed by the pandemic affected participants’ access to HIV services and methods. We also analyze how the pandemic has affected other rights that impact vulnerability to HIV such as privacy and confidentiality, informed decision-making, equality and non-discrimination, education, and an adequate standard of living.

Data Collection

Data were collected 6–8 months after the first COVID-19 cases were registered in Brazil. In São Paulo and Salvador, the first COVID-19 cases were confirmed on February 26th and March 13th 2020, respectively. During March 2020, state and municipal decrees were issued in both cities implementing measures to prevent the spread of coronavirus such as: prohibition of social gatherings (Governo do Estado de São Paulo, 2020; Prefeitura Municipal de Salvador, 2020a); closure of schools and cultural and leisure sites (Governo do Estado de São Paulo, 2020; Prefeitura Municipal de Salvador, 2020b); and closure of non-essential businesses (Governo do Estado de São Paulo, 2020). Such measures lasted until May 31st in São Paulo and until the end of July 2020 in Salvador. In both cities, school buildings remained closed until the end of 2020 and social distancing continued to be recommended.

From September–November 2020, we invited participants enrolled in the PrEP arm to be interviewed. We focused on this study arm because we were particularly interested in how the COVID-19 pandemic affected the use of PrEP, among other prevention methods.

The interview was composed of twenty-two questions, divided in four sections: (1) characterization of living conditions during the pandemic; (2) social representations of COVID-19 and protection measures (i.e., physical distance, isolation, quarantine, mask use, alcohol); (3) self-care during physical distance measures; and (4) sexual behavior and HIV prevention during physical distance measures. In this paper, we analyzed data from topics (1) and (4).

Interviews were conducted in Portuguese by trained and experienced researchers through video calls or interactive voice response, which consisted of participants sending audio messages

using online applications, such as WhatsApp. This latter tool was used when participants were not able to do video calls due to lack of privacy or high-speed internet in their homes. In such situations, participants were given the option to exchange voice messages with the interviewer, allowing them to respond to the questions in a rhythm that better preserved their privacy. Three participants from São Paulo were interviewed in person per their request. These interviews were carried out in a room with natural ventilation, respecting physical distance, and both the interviewer and the interviewee wore face masks and had alcohol gel at their disposal. All interviews were audio recorded with participants' consent.

Data Analysis

Interviews were transcribed verbatim, and the interviewers checked the content of all transcripts by comparing them to the audio content. The names of all interviewees were replaced by pseudonyms to protect participants' anonymity.

We did an iterative thematic analysis (Neale, 2016) using NVivo software (Bazeley & Jackson, 2013; Gibbs, 2002) and involving the following steps: (1) reading the transcripts to ensure familiarity with their content and establish initial codes to raw data (inductive approach); (2) coding the raw data according to these first codes; (3) developing new codes as additional themes emerged in the data (deductive approach) until code saturation was achieved; (4) labeling and describing the codes and illustrating them by raw data; and (5) identifying the codes that helped to identify reiteration, complementarity and discrepancy between codes. DF and LFAD developed the coding book, which was then discussed with TAR, EMZ and SS. Coding was done by DF, TAR, LFAD, AR and SS and reviewed by DF. When differences in coding appeared, they were resolved by the first two authors, who reviewed the information in the raw data, discussed the coding differences and decided consensually how it should be coded.

Data relating to YTGW and YGBMSM were analyzed separately. When substantial differences were found between these groups they are presented; otherwise, findings are presented jointly.

For this manuscript, the excerpts were translated to English by the first author and revised by a professional Portuguese-English translator.

Ethical Statement

The COBra study was approved by the Institutional Review Boards of the University of São Paulo (process number 3.988.973) and the Federal University of Bahia (process number 4.020.132). Participants agreed to participate voluntarily. Individuals aged 18 years or above signed an informed consent form. Individuals aged 15–17 signed an informed assent form, and, based on a judicial decision, parental

consent could be waived for all participants in São Paulo and for those considered most vulnerable in Salvador.

Results

The 39 interviewees were evenly distributed between the two study sites (53.8% from São Paulo and 46.2% from Salvador). Most of them identified as cisgender men (74.3%). As for sexual orientation, most YGBMSM identified as gay (79.3%), while YTGW mainly identified as heterosexual (60.0%). Participants were aged 15–22 years, as the study follow-up can last up to three years, with the greater number aged 18–19 years (43.6%). Most self-identified as black or brown¹ (43.6% and 28.2%, respectively). Approximately half of interviewees were either in or had completed high school; three YTGW women had a history of dropping out or school years delay (Table 1).

Effects of the Pandemic on Living Conditions

Most participants (33) lived with their parents or close family members, four lived with partners and two alone. Although most participants reported feeling safe at home, there were reports of transphobic and homophobic verbal assaults by family members, as well as privacy violations that created tension for those who kept their sexual orientation secret from family. Two transgender participants had moved out of the family home before the pandemic because of conflicts related to their gender identity.

I was living with a friend when the pandemic started. But in April and May I had to go to stay a few days at my mothers' house because my friend's son was coming to stay with him. (...) I wanted to stay at my mother's until the pandemic was over, but it did not work. Like I said, my mother doesn't treat me very well. (...) There were some conflicts caused by my brothers because of me. I think my brother is becoming very homophobic because of what he learns from my mother. He said things like "I want this fag to go away soon." (Oscar, São Paulo, 20, gay man).

One-third (13) of participants moved home during the pandemic—some returned to the family home or to other cities due to financial issues or due to “summons” from families, while others

¹ We present participants' skin color/race according to the classification and terminology defined by the Instituto Brasileiro de Geografia e Estatística (IBGE), which uses a five-fold category mixing skin color (“branca”/white, “preta”/black, “parda”/brown, “amarela”/yellow) with ethnicity (“indígena”/indigenous). It is worth noting that due to the history of miscegenation in Brazilian society, the racial measurement applied by IBGE in the national census has always referred to skin color and, therefore, phenotype (physical appearance), over ancestry (origin) (Travassos & Williams, 2004). Only in 1991, the category “indígena”/indigenous was introduced as part of the present color/race classification.

Table 1 Profile of young transgender women (YTGW) and young gay, bisexual and other men who have sex with men (YGBMSM) participating in PrEP1519 interviewed for the COBra study. Brazil, 2020

Variables	Total		aTGW		aMSM	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Study site						
Salvador	18	46.2	4	40.0	14	48.3
São Paulo	21	53.8	6	60.0	15	51.7
Sexual orientation						
Gay	24	61.5	1	10.0	23	79.3
Bisexual	7	17.9	2	20.0	5	17.2
Heterosexual	6	15.4	6	60.0	–	–
Pansexual	2	5.1	1	10.0	1	3.4
Age						
15–17 yo	10	25.6	1	10.0	9	31.0
18–19 yo	17	43.6	6	60.0	11	37.9
20–22 yo	12	30.8	3	30.0	9	31.0
Skin color (self-defined)						
Black	17	43.6	3	30.0	14	48.3
Brown	11	28.2	4	40.0	7	24.1
White	10	25.6	3	30.0	7	24.1
Yellow	1	2.6	–	–	1	3.4
Schooling						
Elementary school	2	5.1	2	20.0	–	–
High school	19	48.7	5	50.0	14	48.3
Technical school	4	10.3	1	10.0	3	10.3
Higher education	14	35.9	2	20.0	12	41.4
School dropout or delay	3	7.7	3	30.0	–	–
Occupation						
Student	10	25.6	1	10.0	9	31.0
Employed	8	20.5	4	40.0	4	13.8
Both student and employed	12	30.8	4	40.0	8	27.6
Both student and unemployed	6	15.4	–	–	6	20.7
Unemployed	3	7.7	1	10.0	2	6.9

moved in search of better conditions to continue their studies remotely and protect themselves from COVID-19.

Some friends of mine (...) had to return to their parents' house, which was a totally toxic environment, because they had no means of living, they were fired when the pandemic came. (...) I keep thinking of how much the pandemic made us [LGBTQIA+ community] return in a certain way to a place that oppressed us for the sake of surviving, of not being able to keep up financially. (Jean, Salvador, 21, gay man)

With the suspension of in-person classes, 21 of the 29 participants who were studying faced difficulties to keep up with classes, mainly due to insufficient means (computer, high speed internet) to access online lessons, but also due to difficulties in picking up printed activities at school, paying attention to classes at home and learning without guidance. Participants also referred to the lack of face-to-face contact as a loss for social relationships.

The pandemic also negatively affected the working conditions of 17 of the 29 participants who had a job before the public health crisis. Such negative effects included unemployment, difficulties finding temporary jobs or shifting from their original field of work to fields less affected by the pandemic. In addition, seven participants reported unemployment or dismissal of family members or cohabiting partners.

The income of 16 YGBMSM and 7 YTGW was negatively affected by the pandemic. This was the most striking effect of the pandemic for four participants from Salvador, who reported difficulties in purchasing food, and for a YTGW from São Paulo, whose family was struggling to pay rent. Emergency aid provided by the Brazilian government for the socially vulnerable was considered an important social protection measure by five respondents.

It is worth noting that for four YTGW and four YGBMSM, the epidemic negatively affected income, education and occupation, indicating a synergy of negative impacts on living conditions (Table 2).

Table 2 Effects of the COVID-19 pandemic on education, employment and income of young transgender women (YTGW) and young gay, bisexual and other men who have sex with men (YGBMSM) participating in PrEP1519 interviewed for the COBra study. Brazil, 2020

Variables	Total		aTGW		aMSM	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Negatively affected education*						
Yes	21	75.0	5	100.0	16	69.6
No	7	25.0	–	–	7	30.4
Negatively affected employment**						
Yes	17	56.7	5	50.0	12	60.0
No	13	43.3	5	50.0	8	40.0
Negatively affected income						
Yes	23	59.0	7	70.0	16	55.2
No	16	41.0	3	30.0	13	44.8

*The total considers only those who were enrolled in school before the pandemic started. Those who had already concluded or abandoned school are not included

**The total considers only those who had a job when the pandemic started. Those who were not working nor looking for jobs when the pandemic started are not included

I was fired because of the pandemic. (...) Right after I was fired, the school also closed, right? (...) [To do school activities online], I have my cell phone and used my uncle's internet. But, you know, the internet was limited, and doing the activities using the cell phone sucks. (Didier, São Paulo, gay man, 16)

I am very careful to not catch it because I live with my mother and she is 72 years old. (Denis, Salvador, gay man, 19)

This was also the main reason why some participants stopped having sex with casual partners, totally or temporarily, in the initial months of the pandemic. Out of the 25 participants who did not have steady partners, nine had remained abstinent since the beginning of the pandemic, while six of them interrupted casual sex only temporarily.

The sex part is tough. There is the desire, you know, and I haven't had sex since March. Five months... I don't know how I am still here (laughs). Specially because before the pandemic it was like every month. And now I don't go out because people here at home have low immunity, you understand? So, if I caught COVID and brought it home, I believe they wouldn't survive. (Aaron, São Paulo, pansexual man, 17)

Changes in housing settings also contributed to the interruption of encounters with casual partners and with clients, in the case of the one participant who did sex work. Some who returned to their home towns reported a sense of loss of freedom and privacy, as well as family conflicts due to homophobia and transphobia. The only participant who had already returned from his parents' house to São Paulo resumed sexual relations in the first few days back in the city.

To be honest? I've been out a lot more [since returning to São Paulo]. I made up for the desire I had when I was unable to do it there [at parents' house] (Hugo, São Paulo, gay man, 20)

I moved back with my grandma because of the pandemic, things were getting too expansive in Salvador. (Since then)

Staying Home: An Imperative That Limited Social Interactions and Casual Sex

Most participants (31) reported having stayed home as much as possible during the phase of official interruption of non-essential services, which lasted about two months in both cities. During this period, they would leave only for essential activities (supermarket, pharmacy, work). Eight were still staying home when they were interviewed. Among those living with their families there were reports of increased parental control over their autonomy to go out.

[During the quarantine] I could go out only to friends' houses. (...) I never sneaked out because it was impossible to sneak out from my house, it is a very small place. I would ask my mom, she would ask where I was going to go before allowing me to and she would fix a time for me to come back. (Frederico, São Paulo, 16, bisexual man)

Lack of knowledge about COVID-19 caused tension and fear. Protecting elderly or chronically ill family members was the main motivation for staying home.

In the beginning, we were very worried about tomorrow, if we'd be alive, if the end of the world would continue. So, right at the beginning, I was on a tight leash, nobody at home went out and all. (Louise, São Paulo, 18, TGW)

my sex life stopped completely. Not even a kiss. Nothing. (William, Salvador, gay men, 20)

Participants resorted to solo sex and sexting to make up for, at least partially, the lack of face-to-face sexual contacts. Pornography, video calls, exchanging nudes and masturbation played a major role in their sex lives when they were avoiding meeting casual partners.

Sometimes I resort to masturbation. When I can't go out with anyone it's three, four times a day. (Raul, São Paulo, gay man, 18)

When I meet someone with whom I can talk [on the internet], we do some erotic video calls. (Louise, São Paulo, 18, TGW)

The Conflictive Decision of Resuming Social Encounters and Casual Sex

As the pandemic lasted, staying home became increasingly difficult so participants gradually resumed their meetings and outings.

Some of them resumed sexual encounters with casual partners motivated mainly by the perception that the pandemic was no longer that serious (since control measures had been relaxed), and because they could not stand isolation and abstinence anymore. One participant also alleged that he was frequently exposed to the virus at work while making deliveries.

I can't take this shitty quarantine anymore. When I go out there, I will have the 100% freedom I want. For people who date it's even better for dating, they were very lucky because they got to spend the whole day with their boyfriend or girlfriend. (...) I've only been having sex from time to time, two or three times a month. Either with the same person or with another person, but always being careful. (Gregório, São Paulo, 18, gay man)

For others, the resumption of social activities and sexual encounters was experienced in a conflicted way, as the reopening of non-essential activities signaled the possibility of going out again, but concern about family members' health remained.

I went out once. Let's say it was a date, I went to the person's house. At the time it was good, but then I was very worried for up to two weeks thinking that I could've caught something. (Théo, São Paulo, 19, bisexual man)

Finally, some participants had decided to resume face-to-face contact with family or friends but continued to avoid sexual encounters because they considered it riskier to meet people they did not know before.

My friends are quarantining, right? Now, someone else, someone random, from an app, I wouldn't know what they're doing [to protect from COVID]. (Aaron, São Paulo, pansexual man, 17)

Staying Home Improved Sex with Stable Partners

The pandemic also affected the dynamics of sexual relations among the 13 participants who had a stable partnership, but in the opposite direction of those who had not. Among those for whom the relationship lasted until the time they were interviewed (10), nearly all (9) considered that the pandemic had positively affected their sex life. They pointed out that the restrictions on movement and the consequent change to the remote model for study and work activities allowed them more time with their partners, although only four of them actually lived with partners. This greater coexistence resulted in a perception of greater intimacy, closer affective bonds and an increase in the frequency and quality of sexual intercourse.

I do feel that it's different. I think that's because being closer [to my boyfriend] changes how we relate sexually and emotionally. (Christine, Salvador, 20, TWG)

Also, in contrast with the other participants, those who had a steady partner went out more often to meet them, and these outings were perceived as an alternative leisure activity during the pandemic.

Let's say that my leisure in the pandemic was to go to my boyfriend's house. (Tiago, Salvador, 19, gay man)

Three participants reported ending their relationships, two of them due to moving houses because of the pandemic. One of the participants resumed sex with casual partners after that, while the other two stopped having sexual encounters.

HIV Combination Prevention During the Pandemic: Between Informed Choices and Conditions of Vulnerability

All except one of the 30 participants who had sex during the social distancing recommendations related to the pandemic reported having continued to use PrEP during this period. Even among those who suspended sexual encounters temporarily or completely, the majority (10) continued to take the medication, motivated mainly by the incorporation of PrEP into their routine and the desire to remain protected if sexual relations were to be resumed:

It's cool. It [PrEP] has become routine for me. (Gregório, São Paulo, 18, gay man)

[I keep taking PrEP to] try as hard as possible not to catch AIDS. (Thomas, São Paulo, 18, pansexual man)

Other reasons to keep using PrEP were the belief that it could help prevent COVID-19 and the commitment to the PrEP1519 study.

PrEP really made me feel protected, because there were those studies in Spain about people living with

HIV who were using *truvada* and were less exposed to COVID-19. (Jade, São Paulo, 19, TWG)

Among the participants who decided to stop using PrEP, the main reason was the perception that they were not exposed to HIV since they had stopped having sexual intercourse. These participants resumed PrEP or resorted to condoms when they started having sex again.

I stopped using PrEP because I wasn't having sex with anyone and I didn't see the point in taking it. (...) Then, in August, I met this boy and we had sex, so we used a condom. (Denis, Salvador, 19, gay man).

There were cases, however, in which PrEP was interrupted because it was hard to keep it secret in the context of home confinement with family and of limited freedom to go out, which made it difficult to access services.

I wasn't able to go there anymore [to the clinic], so I had to stop. (...) My mother would be very angry with me [if she knew that I use PrEP]. (Frederico, São Paulo, 16, bisexual man)

How was I gonna hide a drug, which I have to take every day at the same time from my parents without them being suspicious? So, I made a practical choice and decided to stop taking it during this period. (Hugo, São Paulo, 20, gay man)

It is noteworthy that these situations were not strictly related to being confined in small spaces, but rather to adult control over youth's sexuality and to hiding sexual orientation from family. For instance, Hugo, above-mentioned, had moved from São Paulo back to his parents' home—which he described as a 140m² apartment located in an upper middle-class neighborhood in another city. He reported that his father was frequently searching for evidence that he was gay and he believe that PrEP could be evidence, so he decided not to take the medication with him when he moved back to his parents' home.

Besides hiding the medications from family, other changes caused by the pandemic contributed to failures in adherence to PrEP among participants who had not decided to stop the medication and were having sex, namely the loss of daily routines and unstable housing.

There was a time that I went almost 15 days without access to the medication because I wasn't at home. (Cleber, Salvador, 20, gay man)

This is particularly relevant if we note that condom use was not always consistent among some of those who had had difficulty maintaining adherence to PrEP.

In the last few weeks, I think I didn't take it for about four, five days because I was at my friend's house and left my medication at home. We use condoms sometimes and sometimes we don't. (Raul, São Paulo, 18, gay man).

Most participants (33) had been tested for HIV during quarantine, mainly due to PrEP follow-up consultations in the PrEP1519 clinics (26). Approximately one-third (12) of participants had chosen to use self-test, which they either picked-up in their consultations at the clinic or received by mail. Those who were familiar with this technology perceived this form of testing as more convenient as it avoided commuting to the service during the pandemic. Those who used it for the first time (4) reported difficulties in doing the test and concern about the result:

Even following it step-by step, I was like: "Did I do it right?". (Aaron, São Paulo, 17, pansexual man)

The reasons for not using the self-test, even though it was available through the study clinics, included not having been recently exposed to HIV, not finding the right moment to test and not having symptoms.

PrEP1519 Clinics as a Resource of Comprehensive Healthcare During the Pandemic

In addition to having received PrEP and HIV self-test by mail, most participants reported having maintained contact with the study clinics, either in person or remotely, for HIV testing, STI and PrEP follow-up consultations, psychosocial support and access to supplies.

Some participants sought PrEP1519 services to treat STIs and health problems not related to sexual health.

For my health, during the quarantine, the only thing I did was to take the medication that [the PrEP1519] nurse recommended. I had gonorrhoea so she gave me some medication. (Denis, Salvador, 19, gay man)

The psychosocial support offered by PrEP1519 clinics during the pandemic stood out as a service valued by the participants and a space in which they could talk about topics that they often could not discuss with other people. One YTGW sought psychological help and mutual support from another YTGW participating in the study to deal with the transphobic violence she was suffering in her family.

During the pandemic it was not even STI issues, but psychological issues, because it [PrEP1519] provides this kind of support, which for me is very important. The psychologist there always talks to me, he always wants to know how I am (...). Which for me is totally important because I feel welcome by them and know that I'm not just a person who may have an STI and needs to be controlled, but a human being with feelings they care about, you know? (Jean, Salvador, 21, gay man)

PrEP clinical follow-up consultations were also referred to as a welcoming space to talk about sexuality and continuing tests routine. In addition, the study interviews were valued as

opportunities to talk about the pandemic, allowing participants to open up and reflect on what they were experiencing.

I loved it [this interview]. God, I didn't think I needed a conversation about the pandemic until I had one. It was wonderful. (Jean, Salvador, 21, gay man)

Discussion

Our findings show that the COVID-19 pandemic and its control measures disrupted the routines of YGBMSM and YTGW participating in a PrEP cohort, with specific features as the pandemic unfolded. The ways the pandemic affected their social and sexual lives were associated with how the participants perceived the pandemic in its different stages, the ways it affected their living conditions and their ability to cope with social distancing over the months. The pandemic disrupted social and programmatic structures that are key in youth trajectories and relevant to the protection of young people's health and rights, such as schooling, work, housing and income, thus potentially increasing their vulnerability to HIV.

At the beginning, participants were highly compliant with social distancing, mainly to protect family members more vulnerable to COVID-19 due to age or comorbidities. Protecting others' health was also found to be an important motivation to engage with social distancing in a survey with a large sample of adolescents in the USA (Oosterhoff et al., 2020). Such compliance, along with diminished autonomy from family during home confinement and house moves, shaped specific circumstances for young people's sexuality. While for those who had steady partners meeting them was a justification to leave the house and the interruption of daily activities meant more time to be with partners, those who only had casual partners increased solo sex and reduced sexual activity with partners. With the extension of the pandemic, however, these participants experienced a gradual fatigue with this routine, and began to resume outings and encounters, including sexual encounters with casual partners.

Thus, social distancing and home confinement resulted in a decrease in casual sex but an increase in sex with steady partners, masturbation, sexting and pornography. Similar changes in sexual behavior have been observed in studies with young adults (Casalheira et al., 2021), including those from sexual and gender minority groups (Nebot-García et al., 2020; Nelson et al., 2020). Among the latter, a significant decrease in sexual desire (Li et al., 2020; Shilo & Mor, 2020) and psychological well-being (Camargo et al., 2021; Shilo & Mor, 2020), and increased depression (Cocci et al., 2020) and mental stress (Camargo et al., 2021; Shilo & Mor, 2020) were also observed.

It is in this context of change in the dynamics of sexual encounters and disruption of social and programmatic

structures that affected basic rights (e.g., availability, accessibility, and quality of education services, sources of income, and health services) that the vulnerability to HIV and other STIs during the pandemic needs to be analyzed. Our data show that preventive practices were maintained in situations where exposure was more frequent, i.e., among those participants who remained sexually active. Nevertheless, the pandemic contributed to failures in taking the medication as it disrupted the participants' routines, increasing the time spent with family, causing them to move to different homes, and limiting their access to services. Thus, it increased the vulnerability of these young people to HIV infection. Studies in other settings confirm that the pandemic has affected access to and use of HIV prevention methods, with evidence pointing to a reduction in service delivery (Stephenson et al., 2021a; b), with lower access to and use of condoms (Lewis et al., 2021), and access to STI prevention and treatment services (Santos et al., 2021), including among young sexual minority men (Hong et al., 2021). Similar to our findings, Lewis et al. (2021) and Mantell et al. (2021) found, respectively, that living with parents and moving during the pandemic were some of the factors that disrupted access to HIV prevention supplies. Despite the decrease in the frequency of sexual intercourse in general, an increase in unprotected intercourse was observed among adult MSM in Israel (Shilo & Mor, 2020) and the USA (Stephenson et al., 2021a; b).

Our results indicate that for some YGBMSM and YTGW the combination of lack of privacy, limited autonomy due to being young and secrecy about sexuality in some families due to homophobia and transphobia negatively impacted their well-being and acted synergistically to hinder access to HIV services and PrEP. In this scenario, ensuring HIV service delivery during the pandemic is crucial and seems to be particularly challenging when it comes to young people. The literature shows that the reduction in the use of sexual health services observed during the pandemic has been greater among young people when compared to adults (Thomson-Glover et al., 2020). Also, young people may be hesitant regarding telehealth services (Rose et al., 2021; Santos et al., 2021), although among adults this modality of care contributed to STI testing during the pandemic in New York (Carnevale et al., 2021) and to strengthening retention in services and adherence to PrEP among MSM and TGW in Brazil (Hoagland et al., 2020). This hesitance may be due precisely to young people's limited autonomy as compared to adults, which is particularly affected in situations of intense disruption of daily life routine such as the COVID-19 pandemic. This highlights the importance of maintaining hybrid service delivery for youth during a public health crisis, allowing access to in-person services to those who are unwilling or unable to use telehealth and further investigating telehealth models that could better fit YGBMSM and YTGW needs.

Although we did not explore mental health conditions in this analysis, it is worth noting that the literature has consistently shown the association between social isolation and mental health problems among young people, as well as the association of mental health problems and sexual risk exposure in this group. A systematic review found that social isolation is associated with depression and anxiety among adolescents, and the duration of social isolation can be a predictor of future mental health problems (Loades et al., 2020). Reports of anxiety, depression, and psychological distress were found to be effects of COVID-19 on the mental health of LGBTQIA + populations (Gonzales et al., 2020; Linnemayr et al., 2020), while being isolated with unsupportive families (Fish et al., 2020) and exposed to sexual orientation-related family conflict (Suen et al., 2020) were recognized as stressors contributing to these outcomes (Gonzales et al., 2020; Linnemayr et al., 2020; Suen et al., 2020).

Even though the failures in PrEP use were related to the conditions of vulnerability explored above, it is important to acknowledge that for those participants who decided to stop PrEP use during the pandemic, the interruption of daily PrEP was an informed decision based on the understanding that they were not exposed to risk and could resort to other preventive methods if they resumed their sexual encounters. This indicates their ability to make autonomous and informed decisions about HIV prevention and sexual health, and their participation in PrEP1519 may have contributed to it. Furthermore, the maintenance of the participants' link to PrEP1519 services during the pandemic indicates that the study played an important role in ensuring YTGW and YGBMSM access to sexual health care and psychosocial support. We can therefore state that PrEP1519 offered a programmatic mediation to participants that potentially reduced their vulnerability to HIV. Similar dynamics of knowledge acquisition and modifications of representations and practices leading to enhanced sexual health management have been found in ANRS-Ipergay, a resembling cohort-like context (Mabire et al., 2019).

This programmatic mediation can be particularly important if we acknowledge the significant shortcomings in schooling, working, and income conditions, which are factors known to potentially increase social vulnerability to HIV. The obstacles faced by participants to maintaining access to education and work indicate, as has been noted by other studies (Ortega & Orsini, 2020), that the pandemic risks further deepening social inequalities in Brazil. This, along with the economic downturn observed in 2020 in the country (UOL, 2021), point to the urgency of implementing strategies to improve access to schools and universities during and after the pandemic, and specific policies to support young people entering the workforce. As modeling studies have shown, school closures can potentially lead to lasting negative effects on the well-fare of children, particularly among those who

were already in disadvantaged households before the pandemic (Fuchs-Schündeln et al., 2020). In this context, it is imperative to maintain and expand financial aid policies to mitigate the effects of the pandemic, as reported by participants in this study.

Limitations

This study has limitations worth noting. Participants are linked to PrEP services and a cohort study in which they access comprehensive sexual health care and psychosocial support. This means, on the one hand, that our results may portray a more optimistic scenario than what might be found among YTGW and YGBMSM not linked to PrEP services, particularly regarding the good adherence to HIV prevention that they reported. On the other hand, their participation in the cohort may have contributed to the reproduction of idealized or socially desired prevention discourses.

We also need to consider that the educational level of participants is high when compared to national standards. In Brazil, four out of 10 students do not finish high school (Todos pela educação, 2018), and YTGW and YGBMSM face greater difficulties to remain in school and complete education due to stigma and discrimination. Nevertheless, it is also worth noting that over one-third of participants were undergraduate students and that the majority identified as black or brown. This may be reflecting the changes in the profile of university students in Brazil over the last few years, notably the increase in black and brown youth in higher education due to affirmative policies (Instituto SEMESP, 2020). It also reflects the efficiency of PrEP 1519's recruitment strategies in reaching out to adolescents and young people from different socioeconomic background: 69.5% of individuals in the study identify as black or brown, as compared to 42.5% of the individuals accessing PrEP through the Brazilian National Health System (SUS) (Brasil. Ministério da Saúde. Departamento de Doenças de Condições Crônicas e Infecções Sexualmente Transmissíveis, 2021).

Finally, a significant limitation of our study is the low proportion of transgender women and individuals under 18, which reflects the common difficulty of PrEP demonstration studies in including such groups. In the PrEP1519 cohort, transgender people and under-18 s account for 7.2% and 20.0% of the sample, respectively.

Conclusion

To our knowledge, this is the first qualitative study analyzing YGBMSM and YTGW sexual and preventive behaviors regarding HIV and STIs during the COVID-19 pandemic in Brazil. Our findings underscore that the pandemic accentuated and reinforced youth vulnerabilities to HIV and indicate the need to

continue to document and analyze the effects of the pandemic on sexual behavior and HIV prevention, since they are dynamic and may require different responses over time.

The COVID-19 pandemic affected structuring elements of the youth trajectories of YGBMSM and YTGW, such as schooling, sociability with peers, autonomy from family, entry into the workforce, and sexuality. It harmed important rights that are fundamental to social protection, namely school, income, and work, which may have lasting effects on the vulnerability of these young people not only to HIV, but also to other health problems.

Sexual practices were significantly distressed by the social distancing measures, creating particular circumstances for young people involved in steady relationships and those who only had casual sex partners, which evolved as the pandemic lasted.

The participants' ability to make informed decisions about HIV prevention in the face of their own behavioral changes indicates an important learning curve, to which their participation in PrEP1519 may have contributed. However, failures in the use of PrEP related to the need to hide the prophylaxis and their sexuality from family point to the importance of structural interventions to fight HIV- and sexuality-related stigmas. In other words, linking YGBMSM and YTGW to HIV prevention services and ensuring service delivery during the public health crisis contributed to promoting HIV prevention and avoiding PrEP discontinuity, but it needs to be complemented by more comprehensive policies, such as approaches focused on families and cash transfer, to compensate the intensity of the disruption caused by the COVID-19 pandemic in the lives of YGBMSM and YTGW. Lastly, as the pandemic continues to quickly evolve—with access to vaccines coexisting with a persistent high number of cases and deaths in Brazil and the emergence of new variants worldwide—future research should focus on how sexual behaviors and use of HIV prevention methods and services among YGBMSM and YTGW may change overtime, with longitudinal designs being of particular interest to address this question.

Acknowledgements The authors would like to acknowledge the researchers working in the implementation of this study: Dirceu Greco, Érica Dumont, Éricles Rufino, Fabiane Soares, Fernanda Soares, Ivo Patrick, Paola Souza, Paula Massa, Priscilla Caires, Samuel Gomes da Silva, Thaís Fonseca, Thiago Sabino, Unai Tupinambás e Wilver Portella.

Author Contributions DF conceived and designed the analysis, supervised data collection, coordinated data coding, analysis and interpretation, and wrote the first draft. TAR contributed in the analysis design, supervised data collection, coding and analysis, and contributed with the writing. EMZ contributed in the analysis design, data coding, analysis and interpretation, and writing. LFADD collaborated on data coding, analysis and interpretation, and writing. XM, LF, LM, AG, MP and ID contributed with interpretation, writing and critical revision. FCB contributed with literature review, writing and critical revision. AR and SS contributed with data coding, analysis and writing. All authors worked on the drafting of this manuscript with relevant intellectual contributions.

Funding COBra study is funded by ANRS/ Maladies infectieuses émergentes, grant number ANRS COV 31 COBra. PrEP1519 is funded by UNITAID, grant number 2017-15-FIOTECPrEP.

Availability of Data and Material (Data Transparency) Data will not be made available for public consultation given the sensitivity of the topics explored in the interviews.

Code Availability (Software Application or Custom Code) Codes can be made available as supplementary material.

Declarations

Conflict of interest We declare to have no competing interests.

Ethical Approvals This study was approved by the Institutional Review Boards of the Faculdade de Medicina da Universidade de São Paulo (process number 3.988.973) and the Instituto de Saúde Coletiva da Universidade Federal da Bahia (process number 4.020.132).

Consent to Participate Interviewees agreed to participate voluntarily and informed consent was obtained and recorded over before starting the interviews. It is worth noting that participants are linked to a PrEP cohort study named PrEP1519, to which they also consented to participate. Also, that PrEP1519 has a special judicial authorization that allows for waiver of parental consent for individuals under 18 in São Paulo and for those deemed at risk of violence and neglect in Salvador.

Consent to Publication All participants were informed that the data collected would be published in scientific journals and events, under the condition of being anonymized to protect participants confidentiality.

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