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## Background

Brazil has been severely affected by COVID-19. The pandemic affected people's daily lives and disrupted the provision of healthcare. This may cause negative effects on the sexual health of the population, particularly among more socially vulnerable groups.

We investigated the association between COVID-19 control measures, sexual behavior, use of HIV prevention services, and the incidence of HIV infection among adolescent and adult men who have sex with men (MSM) and transgender women (TGW) in seven Brazilian cities.

## Methods

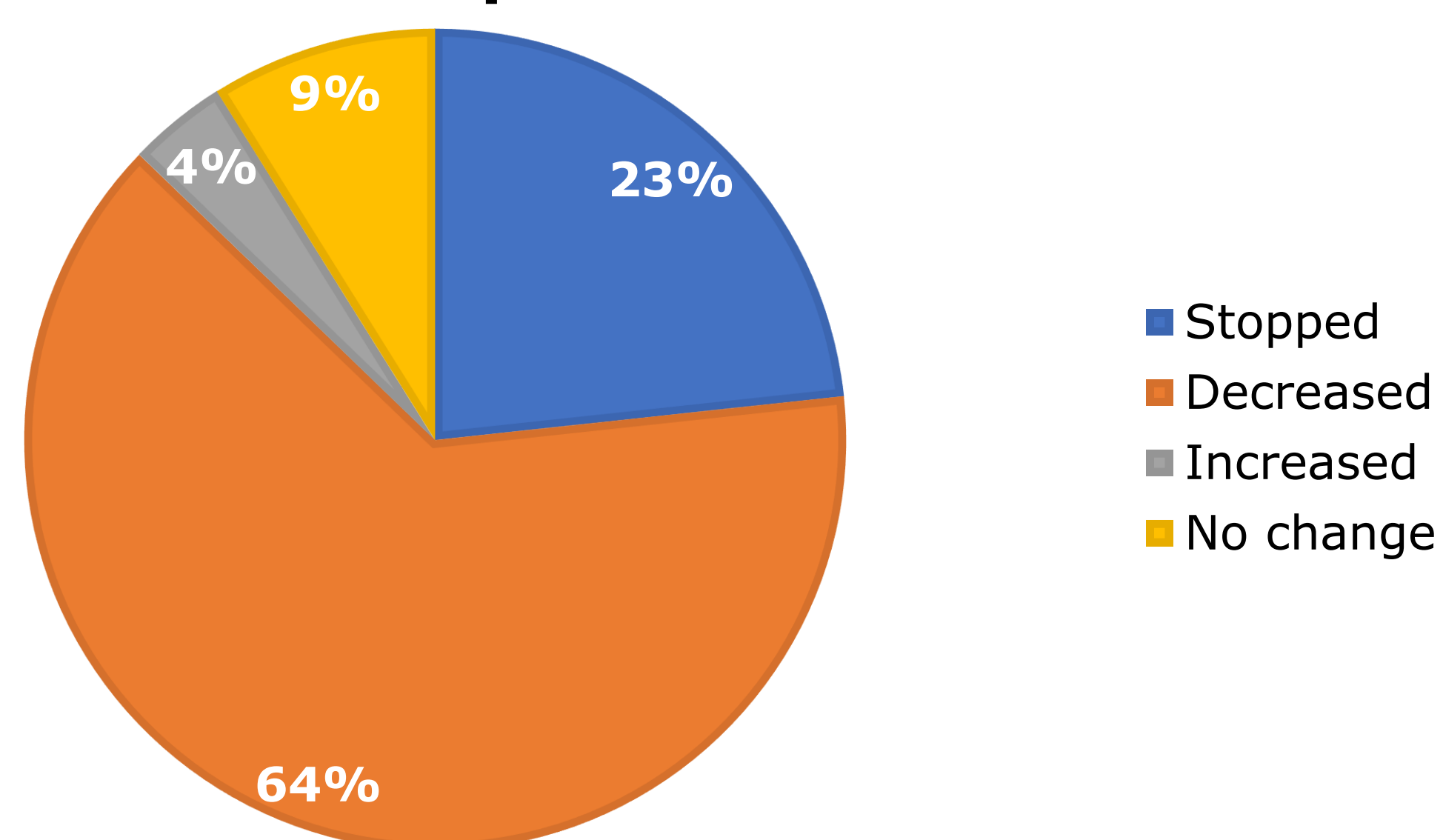
Data was collected as part of a larger investigation named the COBra Study. Between May–November 2020, we carried out **web-based survey** on COVID-19 nested in two PrEP cohorts - Combina (adults) and PrEP1519 (adolescents). Complementarily, we accessed the results of the **rapid HIV tests** conducted as part of participants' quarterly follow-up in both cohorts, from May 2020 to January 2021 (Ferraz et al. 2021).

The cohorts take place in six Brazilian capitals cities and one inner city that is a regional hub.

A total of 524 adolescents aged 15–19yo and 715 adults aged 18+yo were eligible.

We used logistic regression to analyze predictors of unprotected anal intercourse (absence of both PrEP and condom use) with a casual partner (UAI). A decision tree analysis was performed to determine the PrEP service demand profile (self-reported demand for a PrEP service following the declaration of the COVID-19 pandemic). Positive anti-HIV rapid tests were confirmed by viral load tests. P-value <.05 and 95% confidence interval were considered as the significance threshold.

**Figure 1. Sexual practices during the COVID-19 pandemic**



## Conclusions

Despite the reduction of sexual activity among participants and the availability of PrEP services during the COVID-19 pandemic, a significant occurrence of UAI and new HIV infections was observed, highlighting the importance of retention in HIV prevention services and PrEP adherence to control the HIV epidemic during sanitary crises.

## Acknowledgments

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## References

Ferraz D, Dourado I, Zucchi EM, et al. Effects of the COVID-19 pandemic 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 protocol. *BMJ Open* 2021;11:e045258. <https://bmjopen.bmj.com/content/11/4/e045258.citation-tools>

## Results

**Profile:** Among 616 respondents (response rate 48.8%), most were MSM (89.4%), adolescents (15–19 and 47.5%), black (55.1%) and lived in households with 1 to 4 people (83.1%).

**Sexual practice:** The majority reduced (63.9%) or interrupted (23.3%) sexual practice during the pandemic. The main changes in sexual behavior were the increased frequency of masturbation (28.9%), discontinuation of the use of hook-up apps (14.1%) and sex only with stable partners (19.5%) or known casual partners (14.6%).

**Table 1. Main (%) changes in sexual behavior during the Covid-19 pandemic**

Masturbated more often	28,90%
Had intercourse only with stable partners	19,50%
Stopped looking for partners in connection apps	14,10%
Had intercourse only with known casual partners	14,60%
Increased cyber sex	7,80%
Had intercourse only with people who live near	8,10%

The **Prevalence of UAI** was 15.9%. Among those who reported UAI, 80.2% had reduced sexual encounters during the pandemic.

**Predictors of UAI** were: resuming or starting sex work during the pandemic (OR 3.09; IC95% 1.05–9.13) and age range 30–62 yo versus 15–29 yo (OR 1.61; IC95% 1.03–2.51).

Living with someone at increased risk for COVID-19 and having greater adherence to social distancing measures reduced the chance of UAI by 41% and 12% (1-point increase on a scale of 1–10), respectively.

**Table 2. Predictors of unprotected anal intercourse during the COVID-19 pandemic**

Factors	OR (IC95%)	p
30 to 62 years old	1,61 (1,03 - 2,51)	0,036
Living with someone at increase risk for severe COVID-19	0,59 (0,36 - 0,96)	0,034
Started/resumed sex work	3,09 (1,05 - 9,13)	0,041
Greater adherence to COVID-19 prevention measures	0,88 (0,79 - 0,97)	0,009

One-third did not **access PrEP services during the studied period**, more frequently among those who abstained from sex (47.6%). Those reporting UAI had 1.99 times (1.14 – 3.46) higher chance of making a same-day appointment at these services.

Three new **HIV infections** occurred (incidence rate of 0.49%; 0.1–1.42) in individuals aged <19 years old who interrupted or did not adhere to PrEP during the pandemic.