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Profile of HIV pre-exposure prophylaxis users treated at the university hospital of northern Tocantins

Perfil dos usuários de profilaxia pré-exposição ao HIV atendidos em hospital universitário do norte do Tocantins

Perfil de los usuarios de profilaxis preexposición al VIH atendidos en un hospital universitario del norte de Tocantins

Samanta Cunha Mesquita[1], Joaquim Guerra de Oliveira Neto[2], Francisca Nayara dos Santos Madeira[1], Patrícia Alves de Mendonça Cavalcante[3], Lucianna Mirelle de Sá Trabulsi[1], Francisco Maurílio da Silva Carrias[1]

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[1]Tropical Diseases Hospital of the Federal University of Northern Tocantins. Araguaína, Tocantins, Brazil

[2]Federal University of Northern Tocantins. Araguaína, Tocantins, Brasil. Graduate Program in Nursing at the Federal University of Piauí. Teresina, Piauí, Brasil.

[3]Federal University of Southern and Southeastern Pará. BIONORTE Graduate Program. Marabá, Pará, Brasil.

Corresponding Author:
Samanta Cunha Mesquita
Address: Rua Lagoa, número 07, bairro Novo Horizonte, Imperatriz, Maranhão, Brasil.
ZIP Code: 65.900-000
Phone: +55 (99) 99217-7781
E-mail: samanta.mesquita10@gmail.com

ABSTRACT

Introduction: Human immunodeficiency virus (HIV) infection is a serious public health problem that can lead to acquired immunodeficiency syndrome (AIDS). In this context, HIV pre-exposure prophylaxis (PrEP) is a powerful technology that, when combined with other prevention methods, has an impact on reducing new infections with the virus. The objective was to analyze the profile of PrEP users treated at the University Hospital of Northern Tocantins. **Design:** This is an observational, retrospective, cross-sectional, descriptive study with a quantitative approach, using secondary data collected from the Medication Logistics Control System and medical records of all PrEP users. The research was conducted at the University Hospital of Northern Tocantins, from August 2024 to January 2025. Descriptive statistics of absolute and relative frequencies, mean, standard deviation, minimum and maximum values were used, and the chi-square test of independence and/or Fisher's exact test were performed in the Statistic Package for Social Sciences (SPSS) version 21. An alpha error of 5% and a confidence level of 95% were considered. **Results:** The profile of the 63 medical records of PrEP users was predominantly male, cisgender and homosexual, aged between 20 and 29 years, self-declared brown-skinned, and with a high level of education, from Araguaína-TO. **Implications:** Access to PrEP in the service has grown since its implementation, however, there is a need to create strategies to further popularize prophylaxis and reach other priority groups, such as bisexuals, transgender people, and sex workers.

DESCRIPTORS

Pre-Exposure Prophylaxis. HIV. Disease Prevention. Sexually Transmitted Infections.

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INTRODUCTION

Human Immunodeficiency Virus (HIV) infection is a chronic sexually transmitted disease that can lead to Acquired Immunodeficiency Syndrome (AIDS). According to data from the Joint United Nations Program, approximately 39 million people worldwide have been diagnosed with HIV, of which 1.3 million were newly infected.

Although there is no cure for HIV/AIDS, advances in treatment with Antiretroviral Therapy (ART) have been fundamental in reducing morbidity and mortality, improving the quality of life, and improving survival rates for HIV-positive individuals. On the other hand, social stigma surrounding the issue has been a limiting factor, contributing to late diagnosis of the infection, increased ART abandonment, and insufficient public knowledge about the various forms of HIV prevention.

Therefore, containing HIV transmission has been a concern for public authorities, who emphasize the importance of a combination prevention strategy to reduce new HIV infections. In light of this, Pre-Exposure Prophylaxis (PrEP) for HIV has been recommended by the Ministry of Health as an additional method to other existing prevention approaches, enhancing their effectiveness[4].

Since 2018, PrEP has been made available in Brazil by the Unified Health System (SUS) as a combined HIV prevention method. This prophylaxis targets individuals at higher risk of exposure to infection and is referred to as key populations, such as sex workers, homosexuals, transgender people, men who have sex with men, HIV-discordant couples, people deprived of liberty, and alcohol and drug users[4].

When considering users with high medication adherence, PrEP has been shown to be up to 90% effective. This prophylaxis consists of daily use of a tablet combined with two antiretroviral drugs (tenofovir and emtricitabine), which works by preventing the virus from replicating in the body[5]. Furthermore, when considering the use of the medication in the on-demand modality, used before and after events of exposure to the virus, it presents an effectiveness of 86%[4].

Therefore, combinations of prevention methods concomitant with PrEP should be carried out by analyzing the context and specificities of each individual. Therefore, PrEP should be used in conjunction with other prevention methods for greater effectiveness, such as condom use, post-exposure prophylaxis (PEP), and appropriate treatment of STIs, among others[4].

Although studies have shown PrEP to be a safe method with few adverse events related to its use, access to prophylaxis still presents barriers to adherence, which are related to individual, social, interpersonal, and structural aspects of the service. Therefore, there is a need for greater popularization of the PrEP protocol among the general population[4,6,7].

PrEP is also one of the main strategies for controlling the AIDS epidemic, according to target 3.3 of the Sustainable Development Goals (SDGs), established by the WHO in Agenda 2030. Therefore, given the potential social impact of this prophylaxis as a powerful tool for containing the spread of HIV and promoting quality of life, this study is justified by the need to understand the profile of PrEP users treated at the University Hospital of Northern Tocantins.

This allows us to identify potential gaps and weaknesses in the service regarding prophylaxis provision, contributing to the creation of strategies to promote greater demand and adherence. Furthermore, it provides information for primary health care managers and professionals to direct their actions and public policies and reach individuals most vulnerable to HIV infection who are eligible for PrEP.

Thus, this study aimed to analyze the sociodemographic profile of PrEP users treated at the University Hospital of Northern Tocantins.

METHODS

This is an observational, retrospective, cross-sectional, descriptive study with a quantitative approach. The research was conducted at a University Hospital in the northern region of Tocantins, located in the municipality of Araguaína, Tocantins, from August 2024 to January 2025.

The institution is a reference for other states and neighboring cities in specialized care for parasitic and infectious diseases, especially in the treatment of HIV/AIDS. Since July 2022, when PrEP was implemented at the hospital, the unit has become one of the main providers of prophylaxis in the state of Tocantins, along with the capital, Palmas, and the municipality of Gurupi, playing a crucial role in the expansion of this prevention method in the northern region of Tocantins.

The population consisted of 70 patient records, of which 63 records of PrEP users comprised the sample, as they received PrEP care at the University Hospital. The sampling was non-probabilistic and convenience sampling, comprising all users registered in the Medication Logistics Control System (SICLOM) from the implementation of the PrEP service in July 2022 until July 2024.

This study included medical records of individuals of both sexes, 18 years of age or older, registered in SICLOM since the implementation of the PrEP service in July 2022, from any municipality, and who received PrEP at the University Hospital. Three participants' medical records were excluded from the study because they did not have complete records in their medical records and/or SICLOM, because they received care and/or were monitored at the hospital for reasons other than PrEP use, because they were not archived in the Medical Records Department, and/or because they did not contain the variables to be analyzed.

A semi-structured form adapted by the researchers was used for data collection, based on the screening and medical progress sheets from the medical records and the SICLOM registration field of PrEP users. To characterize the sociodemographic profile of participants, the following categorical variables were considered: age, sex, sexual orientation, gender identity, race/ethnicity, marital status, education, month and year of registration, and municipality of residence. Income, occupation, family composition, housing conditions, and access to public policies were also investigated. Clinical monitoring was analyzed considering the first and second return visits for PrEP dispensing and duration of prophylaxis use.

When considering substantial HIV risk, behavioral variables or information related to the last six months were considered, namely: unprotected vaginal or anal intercourse with a partner of unknown HIV status, sexual partner with one or more HIV risks, history of STIs and/or PEP use, multiple sexual partners, drug use and/or sex in exchange for money, goods, or services, and whether or not the individual has or has had a partner living with HIV.

Data were tabulated and organized using a Microsoft Excel® 2016 spreadsheet and subsequently imported into the Statistical Package for Social Sciences (SPSS) for Windows, version 21.0. Categorical data were presented as percentages, and continuous data were presented as mean and standard deviation (SD) or median (interval), minimum value, and maximum value.

The analysis was descriptive, exploratory, and inferential. The chi-square test of independence or Fisher's exact test was used to analyze the association between the different categorical variables. In all tests, the effect size and its complementary derivations (analysis of adjusted standardized residuals, calculation of odds ratios) were calculated, and an alpha error of 5% and a 95% confidence level were established. The study was approved by the Research Ethics Committee of the Hospital de Doenças Tropicais of the Federal University of Tocantins (HDT/UFT) under opinion number 7,053,885.

RESULTS

The study analyzed 63 medical records of individuals using PrEP, and sociodemographic data can be seen in Table 1. The findings showed that the minimum age was 20 years, the maximum was 66 years, the mean age was 31.6 years (SD ±9.56), and more than half (n=33; 52.3%) of them were young adults between 20 and 29 years old.

The majority of participants were male (n=49; 77.8%), identified as homosexual (n=36; 57.1%), and the most frequently reported gender identity was cisgender (n=48; 76.2%). Regarding marital status, 74.6% (n=47) were single, and the majority identified as mixed race (n=25; 39.6%). The study also demonstrated a high level of education among PrEP users, with almost half (n=30; 47.6%) having completed university education, the majority (n=24; 38.0%) having two to three residents in the same household, and predominantly (n=55; 87.3%) living in the municipality of Araguaína, Tocantins.

A chi-square test of independence and Fisher's exact test were performed to investigate whether there was an association between sociodemographic characteristics and PrEP use. However, in most cases, there was no statistically significant association, and some contingency table cells had values less than five. Based on these findings, Fisher's exact test was predominantly considered in the analyses.

Among the variables tested, the chi-square test of independence (2x2) identified a statistically significant association between sex and PrEP use, but its effect size was small ($x^2(1) = 3.934$; $p < 0.05$; $\varphi = 0.250$). Odds ratio analyses showed that males were only 0.29 times more likely than females to not be using PrEP. Thus, it was possible to infer that males were more associated with prophylaxis use than

females, although this difference in the present study was small.

Furthermore, when analyzing the Fisher's exact test for the gender identity variable, a significant association was found between it and PrEP use (Fisher's exact = 5.534; $p < 0.05$; Cramer's V = 0.302) and a medium effect size. Adjusted standardized residual analyses demonstrated that only cisgender men and cisgender women were associated with PrEP use. Therefore, in the present study, odds ratio analyses demonstrated that cisgender women were 3.6 times more likely to not be using PrEP compared to cisgender men. The other sociodemographic variables were subjected to adjusted standardized residual analysis, but did not demonstrate a z-score greater than 1.96; therefore, the odds ratios were disregarded for calculation purposes.

Table 1. Sociodemographic characteristics of PrEP users. Araguaína-TO, Brazil, 2025.

Variables	n (%)	Using PrEP	
		Fisher's Exact Test	**p-value (Cramer's V)**
Age group			
20-29 years	33 (52.3)		
30-39 years	16 (25.4)		0.323
40-49 years	11 (17.5)	4.81	(0.273)
50-59 years	2 (3.2)		
60 years or more	1 (1.6)		
[1]Sexo			
Male	49 (77.8)	3.93	0.047***
Female	14 (22.2)	[2](1)	(0.250)
Sexual Orientation			
Homosexual	36 (57.1)		0.325
Heterosexual	20 (31.8)	2.54	(0.199)
Bisexual	7 (11.1)		
Gender Identity			
Cisgender man	48 (76.2)		0.043***
Cisgender woman	14 (22.2)	5.53	(0.302)
Transgender woman	1 (1.6)		
Race/skin color			
Brown	25 (39.6)		
Black	18 (28.6)	3.05	0.599
White	18 (28.6)		(0.225)
Yellow	1 (1.6)		
Indigenous	1 (1.6)		
Marital status			
Single	47 (74.6)		0.396
Married/common-law relationship	14 (22.2)	2.27	(0.179)
Divorced	2 (3.2)		
Number of residents in the household			
Lived alone	12 (19.1)		
Two to three people	24 (38.0)	7.11	0.067
Four to five people	7 (11.1)		(0.339)
Unknown/No information	20 (31.8)		
Education			
Illiterate	1 (1.6)		
Incomplete elementary education	2 (3.2)		
Complete elementary education	3 (4.8)		0.194
High school	12 (19.0)	7.60	(0.367)
Incomplete university education	12 (19.0)		
Complete university education	30 (47.6)		
Graduate studies (*lato sensu* and *stricto sensu*)	3 (4.8)		
Occupation			
Student	8 (12.7)		
Teacher	6 (9.5)		

Hairdresser	2 (3.2)		
Nurse	2 (3.2)		0.374
Administrative Assistant	2 (3.2)	8.91	(0.375)
Lawyer	2 (3.2)		
Sex Worker	1 (1.6)		
Other*	19 (30.2)		
Unknown/No information	21 (33.2)		
Income			
Up to 1 minimum wage	11 (17.5)		
1 to 2 minimum wages	14 (22.2)		0.274
> 2 minimum wages	14 (22.2)	4.99	(0.292)
No income	2 (3.2)		
Unknown/No information	22 (34.9)		
Municipality of residence (UF/TO)			
Araguaína	55 (87.3)		0.535
Santa Fé do Araguaia	2 (3.2)	6.43	(0.338)
Others**	6 (9.5)		

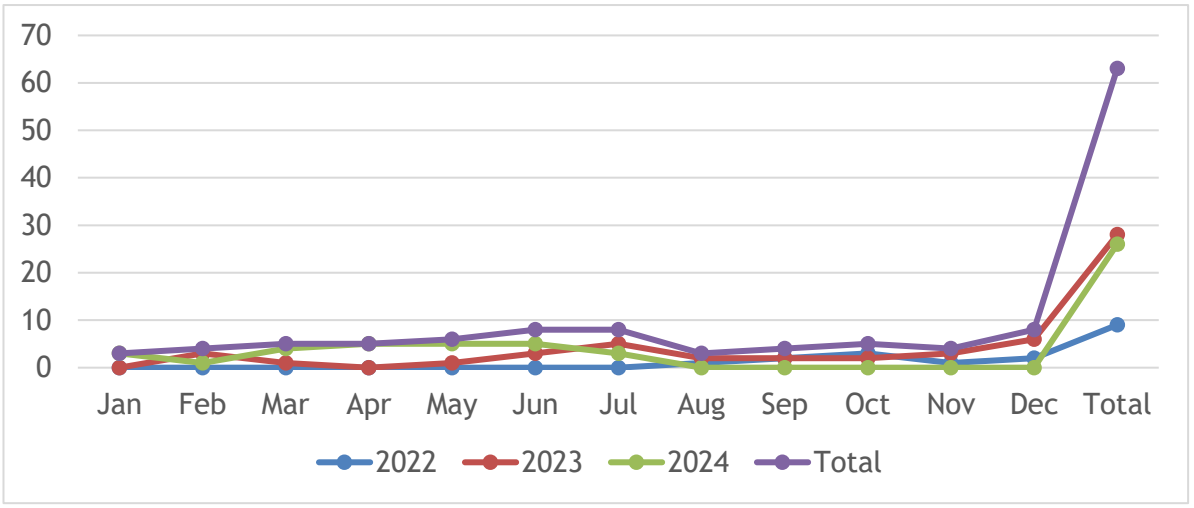
Legend: [1]Variable met the Chi-square (x^2) assumptions; [2](gl) - degrees of freedom; n - number of participants; % - percentage; Cramer's V - Cramer's V test for effect size; *Unemployed, nursing technician, salesperson, office assistant, dentist, veterinarian, pharmacy technician, painter, electrician, food engineer, waiter, business administrator, sales manager, sexual massage therapist, model, waiter, housewife (n=1, each); **Arapoema, Pedro Afonso, Aragominas, Tocantinópolis, and São Miguel (n=1, each); *** $p < 0.05$.
Source: Prepared by the authors, 2025.

Still considering the data in Table 1, it was found that the majority of participants had some type of occupation, with the highest proportion being students (12.7%; n=8), followed by teachers (9.5%; n=6). When examining income, it was noted that, although more than a third (n=22; 34.9%) did not have information on this variable in their medical records, identical values (n=14; 22.2%) were observed both among individuals earning one to two minimum wages and among those earning more than two minimum wages.

Furthermore, all the individuals in this study resided in urban areas, and 68.3% (n=43) had access to public health, social assistance, education, and basic sanitation policies (data not available in the table). When analyzing the distribution of registered PrEP users from July 2022 to July 2024 by month and year of registration (Figure 1), an increase in the number of new patients was observed since the implementation of prophylaxis in the hospital's service in the analyzed historical series, suggesting a growing trend in PrEP demand at the hospital.

It is worth noting that prophylaxis was implemented at the institution in the second half of 2022 and resulted in nine user registrations. That year, October stood out, with three new registrations. In 2023, there was an increase in PrEP demand, with 28 new patient registrations in the Medication Logistics Control System (SICLOM), and the most notable month was December (n=6). In contrast, January and April 2023 had no registrations. The first half of 2024 showed significant growth in patient registrations, with 26 new users initiating prophylaxis, with April, May, and June standing out from the rest (n=5).

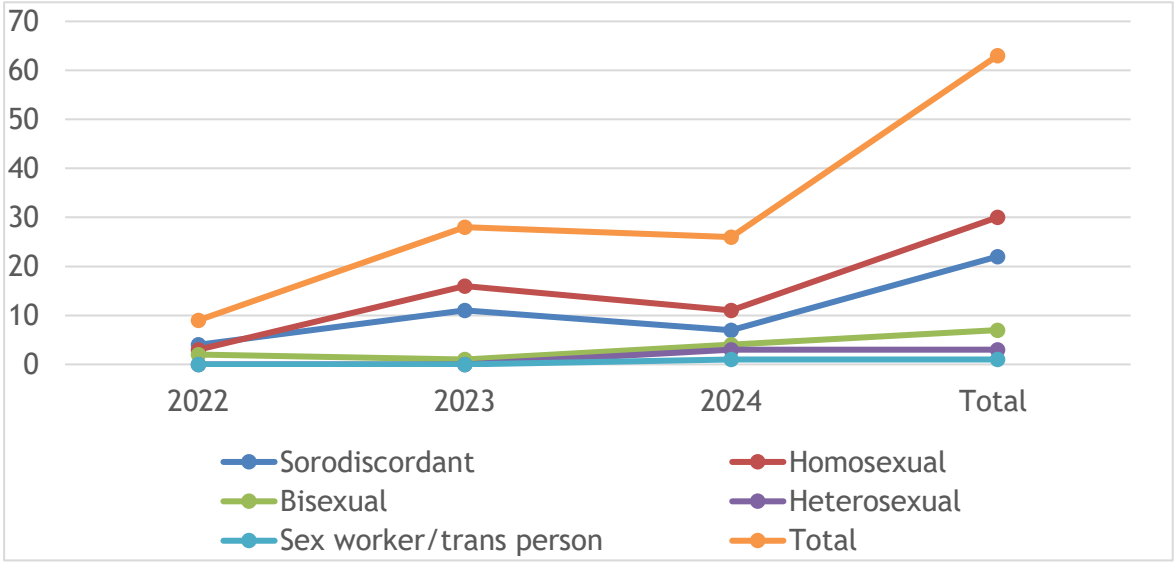
Figure 1. Distribution of registered PrEP users from July 2022 to July 2024. Araguaína-TO, Brazil, 2025.



Source: Prepared by the authors, 2025.

Figure 2 shows the distribution of the key population of PrEP users registered with SICLOM. Within this key population, homosexuals were the ones who most sought PrEP at the specialized care service of the university hospital studied, corresponding to 46.9% (n=30) of new users between 2022 and 2024. It is worth noting that serodiscordant individuals presented a significant value of 34.4% (n=22). Although the heterosexual population is not a priority for prophylaxis, the increased risk of HIV justifies the use of prophylaxis, and they corresponded to 4.7% (n=3) of those who sought the service. On the other hand, low demand for PrEP was found among the transgender population, sex workers (n=1; 1.6%), and bisexuals (n=7; 10.9%).

Figure 2. Distribution of PrEP users registered with SICLOM from July 2022 to July 2024. Araguaína, TO, Brazil, 2025.



Source: Prepared by the authors, 2025.

Table 2 represents the substantial HIV risk screening of patients over the past six months and its association with the key population for PrEP use. Fisher's exact test was performed to investigate whether there was an association between the substantial HIV risk variables (yes or no) and the key population (serodiscordant, homosexual, bisexual, sex worker, and heterosexual) studied. The variables with significant associations and their effect sizes are presented in the aforementioned table.

When the substantial HIV risk screening of users who were about to initiate PrEP over the past six months (Table 2) was verified, it was observed that condomless vaginal or anal intercourse with partners of unknown HIV status was the main risk factor for infection and was present in 55.6% (n=35) of the individuals. No significant association was found between the aforementioned variable and the key population.

On the other hand, when analyzing the variable "sex in exchange for money, goods, or services," just over 6% (n=4) of the individuals' medical records recorded, at screening, that they had already engaged in such a risky behavior. Although the number of patients was small (one heterosexual, one sex worker, and two homosexuals), a significant association was found between the variable "sex in exchange for money, goods, or services" and the key population, and the effect size found was relatively strong (Fisher's exact = 10.792; $p<0.05$; Cramer's V = 0.569). That is, the medical records of the patients studied who reported having sex in exchange for financial or material advantages at screening were likely at greater risk for HIV and likely in need of PrEP. Although analyses of adjusted standardized residuals demonstrated that sex worker and heterosexuality were associated (z-scores of 3.87 and 1.96, respectively) with the variable sex in exchange for money, goods, and services, it was not possible to estimate the odds ratio.

When considering relationships with individuals at risk for HIV and the variable prior history of post-exposure prophylaxis (PEP) use, it was found that 41.3% (n=26) had already used PEP across all segments of the key population studied, with the majority of prior use occurring among homosexuals. No significant association was found between the aforementioned variable and the key population.

Table 2. Substantial HIV risk screening of PrEP users and its association with key populations. Araguaína-TO, Brazil, 2025.

Variables	n (%)	Key-population	
		Fisher's Exact Test	p-value (Cramer's V)
Unprotected vaginal or anal intercourse with partners of unknown HIV status			
Yes	35 (55.6)	7.74	0.068
No	28 (44.4)		(0.356)
Sex in exchange for money. goods or services			
Yes	4 (6.3)	10.79	0.013**
No	59 (93.7)		(0.569)
PEP usage history			
Yes	26 (41.3)	5.74	0.190
No	37 (58.7)		(0.307)
STI History			
Yes	14 (22.2)	15.23	0.005***
No	49 (77.8)		(0.480)
Multiple sexual partners			
Yes	13 (20.6)	9.22	0.034**
No	50 (79.4)		(0.398)
Do you have or have you had a partner living with HIV?			
Yes	31 (49.2)	40.37	0.000***
No	32 (50.8)		(0.750)
Sexual partner with one or more HIV risks			
Yes	26 (41.3)	5.98	0.172
No	37 (58.7)		(0.314)
Drug use*			
Yes	2 (3.2)	3.35	1.00
No	61 (96.8)		(0.089)

Legend: x^2 - Chi-square; *df* - Degrees of freedom; n - number of participants; % - percentage; Cramer's V - Cramer's V test for effect size; *Marijuana and crack (n=1, each); **p < 0.05; ***p < 0.01; HIV - Human Immunodeficiency Virus; PEP - post-exposure prophylaxis; STIs - Sexually Transmitted Infections.
Source: Prepared by the authors, 2025.

It is also noteworthy, in Table 2, that a previous history of STIs and multiple partners was noted in 22.2% (n = 14) and 20.6% (n = 13) of the patients' medical records, respectively, and the majority of these were homosexual. Fisher's exact analysis of the previous history of STIs variable demonstrated a significant association with the key population with a relatively strong effect size (Fisher's exact = 15.234; $p < 0.01$; Cramer's V = 0.480). When analyzing the variable multiple sexual partners in the last six months, a significant association with the key population was also observed (Fisher's exact = 9.227; $p < 0.05$; Cramer's V = 0.398), and the observed effect size was moderate. In this study, analyses of adjusted standardized residuals demonstrated that the serodiscordant and homosexual key populations were associated (z-scores of 3.10 and 2.02, respectively) with the variable "previous history of STIs." Further analysis of adjusted standardized residuals revealed that only the serodiscordant and sex worker key populations were associated (z-scores of 2.31 and 1.97, respectively) with the variable "multiple sexual partners in the last six months, however, some cells had zero values, making it impossible to calculate the odds ratio.

When analyzing the item "have or have had a partner living with HIV" in the medical records, 49.2% (n=31) of patients reported this. Only the medical records of the sex worker patient reported that they did not have or had a partner living with HIV. Furthermore, a significant association was found between the variable "has or had a partner living with HIV" and the key population, and the effect size found was considered strong (Fisher's exact test = 40.377; $p < 0.01$; Cramer's V = 0.750).

The analyses of the adjusted standardized residuals demonstrated that only the serodiscordant, homosexual, and bisexual key populations were associated with the variable "has or had a partner living with HIV." Therefore, the bisexual key population was 1.82 times more likely to not have or have a partner living with HIV, when compared to homosexuals. The other sociodemographic variables were subjected to analysis of the adjusted standardized residuals, but did not demonstrate a z-score greater than 1.96, therefore, the odds ratios were disregarded for calculation purposes.

Furthermore, almost two-thirds of the medical records analyzed (58.7%; n=37) reported at screening (Table 2) that they had no sexual partners with one or more HIV risk factors. Regarding drug use, this study found that only 3.2% (n=2) of individuals used or had used marijuana and crack cocaine. No significant association was found between the variables discussed in this paragraph and the key population.

When evaluating the clinical monitoring of users who initiated PrEP (Table 3), the research data suggest low prophylaxis adherence, as of the 63 individuals who received their first PrEP prescription, 31.7% (n=20) did not attend the first 30-day follow-up. Regarding the second monitoring, corresponding to the four-month follow-up, 19% (n=12) of users discontinued prophylaxis. By the last month of data collection, 58.7% (n=37) individuals were using PrEP, while 41.3% (n=26) had discontinued it. Therefore, it was found that the profile of the patients in this study was showing low adherence to prophylaxis, with a mean time of PrEP use of 5.44 months (SD ±5.45), with a minimum period of one month and a maximum of 25 months (Table 3).

Table 3. Clinical monitoring of new PrEP users. Araguaína-TO, Brazil, 2025.

Variables	Frequency (n)	Percentage (%)
1st monthly return		
Within 30 days	20	31,7%
Greater than 30 days	23	36,5%
Patient did not return	20	31,7%
Quarterly return		
120 days	19	30,2%
Greater than 120 days	6	9,5%
Patient was not available on the return date	6	9,5%
Not applicable*	20	31,8%
Patient did not return	12	19,0%
Monitoring PrEP		
Yes	37	58,7%
No	26	41,3%

Legend: *It refers to patients who did not attend the first 30-day monitoring.
Source: Prepared by the authors, 2025.

DISCUSSION

The sociodemographic profile analyzed at the university hospital studied was similar to other studies, in that it was predominantly composed of male, homosexual, cisgender, single men with a high level of education[5,7]. The predominant ethnicity/mixed race in this study differed from the national literature[5,9], in which the majority of prophylaxis users were white. However, this may be explained by the regional aspect, where, according to data from the Brazilian Institute of Geography and Statistics (IBGE), in 2022, 62.1% of Tocantins residents identified as mixed race[10].

According to the Ministry of Health's PrEP Monitoring Report[9], individuals between 30 and 39 years old were the ones who used prophylaxis the most in Brazil. When this information was compared to our study, a divergence in the age range of PrEP users was found, characterized by a young adult population, aged 20 to 29. On the other hand, the 2024 HIV/AIDS epidemiological bulletin showed that from 2007 to 2024, young people aged 15 to 24 accounted for 23.2% of new HIV cases. These data demonstrate the importance of public policies to prevent infection in the young population, especially adolescents[11].

A study conducted in São Paulo with young people aged 15 to 19 using PrEP, which compared the provision of prophylaxis by a Community Organization in the outskirts of cities and conventional services located in the city center, found that the availability of PrEP in the community contributed to greater access to timely therapy for young people, and that these young people had less prior knowledge of this prevention method than those living in central areas[12]. Therefore, the inclusion of PrEP in strategic locations was effective in mitigating social and geographic barriers and reaching, above all, young people in contexts of greater vulnerability, thus reducing inequities[12].

As highlighted in this study, the association between sex and PrEP use demonstrated that men are more likely to be using prophylaxis than women. This was an important finding and has been corroborated in other publications. PrEP use, especially by men, may be related to a greater propensity for sexual risk behavior, as in the case of men who have sex with men, who have high rates of HIV infection and are the focus of this prevention strategy. Additionally, there is an underestimation of HIV prevalence in women. A study conducted in the US highlighted the low PrEP coverage among women, who accounted for 5% of prophylaxis users annually, despite representing one in four people living with HIV in the country[13].

Gender identity also constitutes a cultural barrier to accessing prophylaxis, with cisgender women being more likely to not be using PrEP compared to cisgender men. These data are in line with other global studies, which reveal that cisgender women's lower adherence to prophylaxis is primarily linked to gender-related stigma[13,14].

Although this study did not find an association between education level and PrEP use, other studies have shown that individuals with less education are not being reached by prophylaxis, and paradoxically, are more vulnerable to HIV infection[15]. This study indicated that the majority of individuals who sought PrEP had completed university education, a finding described in other studies[16,17]. Regarding income and PrEP use, the literature suggests a shortage, but this is a factor that influences individual access to healthcare services[18].

A national ecological study conducted from 2018 to 2022 concluded that non-use of PrEP by individuals with less social vulnerability may be influenced by socioeconomic and health factors[19]. Therefore, it is important to implement strategies that expand access to PrEP, targeting the context of socioeconomic vulnerability[12,19].

According to data from the Ministry of Health's PrEP dashboard, 20 from January 2018 to December 2024, 229,035 individuals used prophylaxis in the country. This trend was observed in this study, which showed an increase in PrEP use at the service, especially by homosexual men, since its implementation in July 2022.

PrEP use by homosexual men is predominant, suggesting greater knowledge of prophylaxis among this group, who are often the target of prevention campaigns, and may also demonstrate this population's interest in protecting themselves from HIV infection[5].

Considering that the hospital studied is a reference in HIV/AIDS care, the use of prophylaxis, especially among serodiscordant couples, was expected in this study. This is because the setting allows, in a timely and strategic manner, the provision of PrEP to HIV-negative partners of patients treated at the Specialized Care Service. Studies reinforce the impact of this therapy on individuals' well-being, their social relationships, and especially on their quality of sexual life[21].

On the other hand, the need to popularize PrEP was noted to reach underrepresented populations in this study, such as transgender people and sex workers, responsible for high mean HIV prevalence rates in adults. This population corresponds to 9.2% and 3% of cases, respectively[2]. The context of vulnerability in which these individuals live increases the barriers to prophylaxis use when compared to other key populations[22].

Regarding substantial HIV risk, it can be seen that some sexual behaviors were more closely related to key populations. As soon as it was pointed out, the practice of sex in exchange for money, goods, or services was strongly associated with sex workers and heterosexuals. Individuals in this specific context may be more vulnerable to the virus because they have less control over sexual practices, especially condom use.[(23)]

A prior history of STIs is widely described in the literature as a risk factor for HIV infection, since lesions in genital tissue, for example, can favor transmission of the virus. The association between prior STIs and the key population found in this study sample was strong and evidenced by other studies. In this context, it is important to target measures to raise awareness and encourage combined prevention. The literature already reports an increase in other STIs in individuals after starting PrEP, who tend to underestimate the risks of other infections[24].

Sexual intercourse with multiple partners increases the risk of STIs, as lack of knowledge about one's own HIV status presents a significant risk context[25]. Homosexual men tend to have multiple partners and were the majority represented in this study, which obtained a moderate association with the key population.

Having or having had a partner with HIV is one of the main motivations for initiating PrEP and has been addressed in scientific publications[16,21]. This aspect showed a strong statistical relationship with the key population investigated.

Although condomless vaginal or anal intercourse with a partner of unknown HIV status did not show a significant association in this study, it was the main risk behavior exhibited by PrEP users at the service. Non-condom use may be primarily related to trust in the partner and/or a dislike of using the method[7].

When considering drug use prior to PrEP use, no information was found in the medical records analyzed indicating that the individuals had injected drugs, but rather that they had used marijuana and crack. This result differs from other studies, which found that PrEP was sought by these individuals due to injecting drug use[7,26]. A cohort study conducted at a hospital in Brasília showed a significant association between drug use and increased risky sexual behavior, with individuals being 2.4 times more likely to have sexual partners compared to non-drug users. The use of these psychoactive substances is primarily related to the intensification of sexual pleasure[27].

Another point worth highlighting is the discontinuation of PrEP by users in this study during the period analyzed, with almost half discontinuing prophylaxis. These findings were similar to those of a study conducted in Paraná[5], of which 188 people were using PrEP, 53% of whom discontinued prophylaxis after the first six months. Therefore, there is a need to adopt measures that aim to greater retention of individuals in the use of PrEP in services.

The literature highlights that numerous factors may be associated with PrEP discontinuation, such as HIV-related stigma, lack of professional preparation to address gender identity and sexual orientation diversity, and access to services, among others[6,18]. On the other hand, the prescription of PrEP by other professionals, such as nurses, in the Primary Care setting has been shown to be a positive aspect for greater prophylaxis adherence and reaching more vulnerable individuals[28].

This research was limited by the brief period analyzed, associated with the incipient implementation of HIV/AIDS prophylaxis services at the referral hospital in the northern region of Tocantins. However, information on the profile of PrEP users at the only university hospital in Tocantins suggests a uniqueness to the data analyzed and may inform further studies on the subject.

CONCLUSION

The sociodemographic profile of PrEP users at the university hospital was young, cisgender, homosexual men, single, with a higher level of education, and from Araguaína, Tocantins. Furthermore, their substantial risk behavior included engaging in vaginal or anal sex without a condom and with unknown partner's HIV status.

It was inferred that access to PrEP at the hospital studied remains limited, and that the service needs to be expanded to other priority groups, such as bisexuals, transgender people, and sex workers. It was also identified that there is a need to strengthen health initiatives that raise awareness of the potential benefits of PrEP to increase demand for and adherence to the therapy. In this context, strengthening the healthcare network matrix, with an emphasis on primary care, plays a fundamental role, as it is the level of care closest to the population, especially those in the most socially vulnerable contexts, who are underrepresented in this study. Finally, the popularization of PrEP poses a challenge for public authorities and services where prophylaxis is offered, as coverage, accessibility, and equity must be ensured.

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AUTHOR CONTRIBUTIONS

Study conception or design: Mesquita SC, Oliveira Neto JG.
Data collection: Mesquita SC. Data analysis and interpretation: Mesquita SC, Oliveira Neto JG.
Article writing or critical review: Mesquita SC, Oliveira Neto JG, Madeira FNS, Trabulsi LMS, Cavalcante PAM, Carrias FMS.
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The study was approved by the Research Ethics Committee of the Tropical Diseases Hospital of the Federal University of Tocantins (HDT/UFT), according to opinion number 7,053,885 and Certificate of Submission for Ethical Review 82302424.8.0000.8102.

CONFLICT OF INTEREST

There is no conflict of interest to declare.