

Original Article

## Vulnerability of the Brazilian LGBT population in HIV treatment

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### Abstract

**Introduction:** Human immunodeficiency virus (HIV) infection affects the lesbian, gay, bisexual, transvestite, and transsexual (LGBT) population. We aimed to identify the individual vulnerability profile of the LGBT population living with H/acquired immunodeficiency syndrome (AIDS) and correlate it with the treatment situation.

**Methodology:** This cross-sectional study included 510 LGBT people living with HIV (PLHIV)/AIDS who attended the Complex of Chronic Communicable Diseases of the municipality of São José do Rio Preto, São Paulo, Brazil, between 2008 and 2015.

**Results:** There was a predominance of individuals who were white (70.2%), male (98.4%), single (87.1%), aged 25–44 years (70.0%), educated up to high school (47.7%), economically active (91.2%), under treatment (80.8%), having CD4 > 350 cells/mm<sup>3</sup> (77.1%), and having undetectable viral load (53.3%). HIV transmission was mainly sexual (97.0%) and most people used drugs (76.5%). There was a weak correlation between the variables ‘in treatment’ and active occupation ( $r = 0.148$ ,  $p = 0.001$ ), single marital status ( $r = 0.128$ ,  $p = 0.004$ ), white race/colour ( $r = 0.117$ ,  $p = 0.008$ ), high school education ( $r = 0.111$ ,  $p = 0.012$ ), sexual transmission ( $r = 0.222$ ,  $p = 0.000$ ), drug use ( $r = 0.087$ ,  $p = 0.049$ ), and CD4 > 350 cells/mm<sup>3</sup> ( $r = 0.118$ ,  $p = 0.008$ ); and strong correlation between the variables ‘in treatment’ and undetectable viral load ( $r = -0.937$ ,  $p = 0.113$ ).

**Conclusions:** The characteristics of the individual vulnerability of LGBT people involve, among other aspects, issues of gender and social exclusion, a situation that is part of the daily life of PLHIV/AIDS in many scenarios and territories. This can be alleviated with a network of social and health support and effective and efficient, protective, attitudinal, and behavioural public policies.

**Key words:** Health profile; sexual and gender minorities; HIV; acquired immunodeficiency syndrome; Brazilian LGBT population

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### Introduction

Acquired immunodeficiency syndrome (AIDS) is a complex infectious disease that affects the patients’ way of life, their relationships, demonstrations of sexuality, and the search for constant sexual pleasure. This disease involves a very real clinical conformation, which finds everyone, without exception, unprepared and fragile, exposing them to prejudice and social vulnerability. Patients with AIDS often experience social exclusion, discrimination, violation of rights, and the inability to coexist in society. A previous study has unveiled themes of sexuality, enormous inequalities between men and women, and pointed out a situation of progressive increase in the illness of all involved [1].

According to Joint United Nations Programme on HIV/AIDS (UNAIDS), by the end of 2019, 38 million people were living with the human immunodeficiency virus (HIV), and 1.7 million new HIV infections were registered worldwide. The risk of HIV infection varies

according to age group, sex, and region, with a greater involvement of young people, gays, bisexuals, and other men who have sex with men (MSM) [2,3].

The literature shows that the risk of HIV contamination is 26-fold and 13-fold higher for MSM and transsexuals, respectively, compared to heterosexual people. In sub-Saharan Africa, there is a higher risk of infection among women aged 15–24 years, while in other regions, such as the Caribbean, Europe, and North America, most new HIV infections in adults in 2019 occurred in men [2,4].

Additionally, 23% of the new HIV infections registered worldwide in 2019 occurred in gay men and MSM. In Asia and Latin America, this population represents >40% of new HIV infections registered in 2019, while in Central Europe and North America, 64% of new HIV infection cases occurred among gays and other MSM [4].

Currently, Brazil is experiencing an increased prevalence of HIV/AIDS among the youngest population groups in vulnerable contexts (homosexuals, sex workers, drug users, transvestites, and transsexuals) that tend to reduce the regular use of condoms [5]. The increase in HIV incidence and AIDS rates in the past 4 years, especially among younger people, shows that the epidemic has not been controlled. Despite advances in secondary and tertiary AIDS prevention, Brazil has experienced a major setback in primary prevention, contributing to the increase in HIV incidence and AIDS rates in recent years, especially among the youngest [6].

HIV/AIDS transmission in the country is mainly through sexual intercourse, with unprotected anal receptive sexual practices being the most at risk of acquiring the virus. Thus, the homosexual population has a high risk of exposure to HIV, influenced by the characteristics of sexual practices and behaviour [7]. Although knowledge of HIV/AIDS is insufficient to adopt protective behaviour, the lack of information contributes to increased vulnerability to the disease, especially in the form of transmission. This can lead to fewer people being tested for HIV as they do not understand their own risk of exposure to the virus [8].

In this context, the lesbian, gay, bisexual, transvestite, and transsexual (LGBT) community stands out in the fight against AIDS. This population has effectively attracted attention and gained resources to face HIV/AIDS. However, these individuals are highly affected by infection and, for the most part, have HIV-related stigma (irrational or negative attitudes, behaviours, and judgements driven by fear) [9,10]. Considering that the HIV/AIDS epidemic is on the rise in the LGBT community, studies are necessary to understand the causes of vulnerability in this population [11].

Vulnerability is a set of collective and individual aspects related to the mode and degree of exposure to a given problem and access to resources for protection against the possible consequences of this problem. It is subdivided into individual, social, and programmatic vulnerabilities. Individual vulnerability, the focus of this study, includes an individual's characteristics, such as age, sex, professional activity, and sexual practices, as well as one's knowledge about the problem, interests, and possibilities of transforming concerns into protected and protective practices [12,13].

Thus, it is believed that understanding the profile of the LGBT people living with HIV/AIDS can help in drafting public policies that reduce the transmission of the virus; outline steps for the prevention, treatment, and control of the epidemic; improve the integrity of

care; and advocate the humanisation of care that is free from discrimination and prejudice and reduces the inequalities experienced by these patients.

Therefore, this study aimed to identify the individual vulnerability profile of the LGBT population living with HIV/AIDS and correlate it with the treatment situation.

## **Methodology**

### *Study design*

This cross-sectional, descriptive, and analytical study was conducted in 2018 using secondary data sources from the LGBT population living with HIV/AIDS, who attended the Complex of Chronic Communicable Diseases (CCCD) of the municipality of São José do Rio Preto, São Paulo, Brazil.

CCCD is a specialised, a reference service for people living with HIV (PLHIV)/AIDS. The monitoring is conducted by a multidisciplinary team comprising an infectious disease specialist, general practitioner, psychiatrist, gastroenterologist, endocrinologist, plastic surgeon, nurses, psychologists, social worker, nursing technician, pharmacy technicians, health educator, health agent, and administrative agent.

The study population involved 510 LGBT PLHIV/AIDS who attended the CCCD since its inception in May 2008. Services carried out before May 2008 were excluded, as there was no adequate record of information and there were several users who were not in the LGBT community.

### *Ethical considerations*

We respected all the ethical and legal aspects of research involving human beings, regulated in Brazil by Resolution number 466/2012 of the National Health Council [14]. The study was approved by the Research Ethics Committee of the Faculty of Medicine of São José do Rio Preto (opinion number 1,716,588) on 8 June 2020.

### *Study area*

The study was conducted in São José do Rio Preto, a large municipality located in the northwest region of the state of São Paulo, Brazil, with an estimated population of 460,671 in 2019 [15].

### *Data collection and analysis proceeding*

Data were collected from secondary sources using an instrument developed by the CCCD management to monitor its users (Monitoring Form). We collected sociodemographic variables (date of birth, age, mother's name, sex, occupation, marital status, race/colour, education), clinical variables (CD4, viral

load [latest records], treatment status [abandonment, transfer, death, and treatment]), and individual vulnerability variables (sexual desire orientation, gender identity, drug use and types, transmission category).

Descriptive statistics were used to profile the LGBT population living with HIV. The correlation between the dependent variable ‘treatment status’ with independent variables (age group, sex, sexual orientation, gender identity, CD4, viral load, occupation, marital status, race/colour, education, transmission category, and drug use) was analysed with the Spearman's correlation test, adopting a significance of 95% ( $p \leq 0.05$ ). A weak correlation was considered for values of  $r$  up to 0.30, moderate for values between 0.40 and 0.60, and strong for values greater than 0.70.

### Results

A total of 510 LGBT PLHIV were attended by CCCD; 358 (70.2%) considered themselves white, 502 (98.4%) were male, and 444 (87.1%) were single. There

**Table 1.** Sociodemographic profile of the LGBT population living with HIV.

Variables	n (%)
<b>Sex</b>	
Male	502 (98.4)
Female	8 (1.6)
<b>Age group (years)</b>	
15–24	21 (4.1)
25–34	190 (37.2)
35–44	167 (32.8)
45–54	89 (17.5)
> 54	43 (8.4)
<b>Race/colour</b>	
White	358 (70.2)
Brown	115 (22.6)
black	19 (3.7)
Indigenous	4 (0.8)
Yellow	2 (0.4)
No information	12 (2.3)
<b>Marital status</b>	
Not married	444 (87.1)
Stable union	32 (6.3)
Separated/divorced	17 (3.3)
Widower	4 (0.8)
No information	13 (2.5)
<b>Education</b>	
Illiterate	2 (0.4)
Elementary school	72 (14.1)
High school	243 (47.7)
University education	182 (35.7)
No information	11 (2.1)
<b>Occupation</b>	
Active	465 (91.2)
Inactive	30 (5.9)
No information	15 (2.9)
Total	510

was a predominance of people aged 25-34 years (37.3%) and 35-44 years (32.8%). Regarding education, 47.7% had high school, and 91.2% considered themselves economically active (Table 1).

The clinical profile of LGBT people treated at the CCCD showed that the absolute majority (80.8%) remained under treatment and the treatment dropout rate was low (4.3%). Although 77.1% of the people had CD4 >350 cells/mm<sup>3</sup>, more than 35.7% of them had a viral load >500 copies. The percentage of people with undetectable viral load was 53.3% (Table 2).

The individual vulnerability profile of the LGBT population studied showed that the majority identify themselves as men (91.0%), with a homosexual orientation (82.8%). The main form of HIV

**Table 2.** Clinical profile of the LGBT population living with HIV.

Clinical variables	n (%)
<b>CD4</b>	
CD4 < 350 cells/mm <sup>3</sup>	116 (22.7)
CD4 > 350 cells/mm <sup>3</sup>	393 (77.1)
Did not perform	1 (0.2)
<b>Viral load</b>	
Undetectable	272 (53.3)
> 500 copies	182 (35.7)
< 500 copies	55 (10.8)
Did not perform	1 (0.2)
<b>Treatment status</b>	
Treatment	412 (80.8)
Transferred	53 (10.4)
Death	23 (4.5)
Abandonment	22 (4.3)
Total	510

**Table 3.** Profile of individual vulnerability of the LGBT population living with HIV.

Individual vulnerability variables	n (%)
<b>Gender identity</b>	
Man	464 (91.0)
Transvestite	33 (6.4)
Woman	8 (1.6)
Transsexual	5 (1.0)
<b>Sexual desire orientation</b>	
Homosexual	422 (82.8)
Bisexual	88 (17.2)
<b>Transmission category</b>	
Sexual	495 (97.0)
Syringe sharing	3 (0.6)
Work accident	1 (0.2)
Blood transfusion	1 (0.2)
No information	10 (2.0)
<b>Use of drugs</b>	
Yes	390 (76.5)
No	108 (21.2)
No information	12 (2.3)
Total	510

transmission was sexual intercourse (97.0%), of which most of the LGBT population treated at the CCCD were MSMs. Drug use was reported by 76.5% of the LGBT individuals, with 53.3% claiming to use illicit drugs, such as hemp, crack, cocaine, ecstasy, and Lysergic acid diethylamide (LSD) (Table 3).

The correlation analysis of the sociodemographic and clinical variables with the treatment status of LGBT PLHIV showed a weak correlation between being ‘in treatment’ and the following variables: acte occupation ( $r = 0.148, p = 0.001$ ), single marital status ( $r = 0.128, p = 0.004$ ), white race/colour ( $r = 0.117, p = 0.008$ ), high school education ( $r = 0.111, p = 0.012$ ), sexual transmission ( $r = 0.222, p = 0.000$ ), drug use ( $r = 0.087, p = 0.049$ ) and CD4 >350 cells/mm<sup>3</sup> ( $r = 0.118, p = 0.008$ ); and strong correlation between being ‘in treatment’ and undetectable viral load ( $r = -0.937, p = 0.113$ ) (Table 4).

**Discussion**

Vulnerability is configured in a dynamic of reciprocal interdependencies that express multidimensional values. It restricts the relational capacities of affirmation, including forms of social agency, generating fragility [16], which can be seen in many social groups, such as in the PLHIV/AIDS portrayed in this study.

In this context, it is important to highlight that the diagnoses of HIV and evolution of AIDS requires continuous care, that involves promotion, prevention and diagnosis of the disease; linking newly diagnosed patients to referral services; treatment of all infected patients; adherence to treatment, and viral suppression. The last three stages are the most challenging to achieve the 90-90-90 goals, despite providing free access to antiretroviral medications in Brazil [17]. Therefore, it is challenging for health professionals, especially in the primary health care (PHC) sector, to plan health actions that consider the complete profile of each patient, as it requires knowledge from many different scientific fields.

Although the retention and adherence to HIV/AIDS treatment are multifactorial, variable, and dynamic processes, the analysis of the relationship between the sociodemographic, clinical, and individual vulnerability profiles of the LGBT population provides helps identify aspects that may interfere with these processes, corroborating the planning of health care actions [18].

The percentage of the LGBT population undergoing treatment at the CCCD or those who started treatment and were transferred to other services showed broad access and reception of the LGBT population in the municipality's health services. In other regions of Brazil, although there are regulations that guarantee equality in access to health, equality, and respect for diversity, they have not been able to ensure the dignified reception of PLHIV/AIDS [19].

When accessing public health facilities, LGBT users can feel afraid to express their sexuality due to social fears and the unpreparedness of health professionals to deal with the specific health issues of these citizens. The routinely reproduced discourses of heteronormativism and prejudice represent a challenge to health professionals, as these discourses are historical and the encouragement of political debate on such topics in health is not yet eminent [19].

The prevalence of people aged 25-45 years corroborates Brazilian studies conducted on PLHIV [20,21]. These people belong to the economically active group and are employed in various roles, such as salesmen, hairdressers, and teachers. This profile is consistent with the data of the municipality of São José do Rio Preto, which shows a higher concentration of people of an economically active age group [15].

Work is one of the main channels through which individuals insert themselves into social structures [22]. However, although the importance of work for participation in society and development is acknowledged, the a previous study reported that LGBT people experience challenges in accessing most occupations [23]. A study on motivations for

**Table 4.** Correlation between treatment status and sociodemographic, clinical, and individual vulnerability variables of the LGBT population living with HIV.

Variables	Spearman correlation	p-value
Treatment status	1.000	
Occupation	0.148	0.001
Marital status	0.128	0.004
Race/colour	0.117	0.008
Education	0.111	0.012
CD4	0.118	0.008
Viral load	-0.937	0.113
Transmission category	0.222	0.000
Use of drugs	0.087	0.049

developing commitment policies concerning sexual diversity found that 7.0% of Brazilian companies would not hire homosexuals 'at all', and 11.0% would not select them to represent their company. Although it is possible to identify LGBT groups within companies, they are mainly composed of gay and white men, making it more difficult to verify the presence of lesbian women, black gays, transsexuals, and transvestites [24].

A study reported that living with HIV is a reason for discrimination and exclusion from the labour market, affecting workers' access to social benefits, increasing their vulnerability, and worsening the clinical prognosis [25]. In this context, in 2014, Law no. 12,984 defined discrimination as a crime against PLHIV/AIDS. According to this law, these people have benefits, such as sickness allowance after proof of incapacity by a social security expert, medical examination, and disability retirement, requiring biennial medical expertise to maintain the benefit, in addition to the benefit of continued provision (guarantee of salary and minimum monthly allowance for people incapable of independent living and work) [26].

Coping with discrimination involving PLHIV/AIDS in the labour market should always be discussed, as employment is one of the most relevant factors for coping with HIV. Generally, PLHIV with better socioeconomic conditions experience more positive interpersonal relationships and, because they have greater availability of social support, can show greater stabilisation of the disease, since social support increases the person's will to live and self-esteem, contributing to the success of treatment.

In addition, there is a beneficial relationship between work and adherence to treatment, since exercise in work activity requires that the person has good health and quality of life. Therefore, it is necessary to follow the therapy correctly since controlling viral replication using antiretroviral drugs reduces the number of opportunistic infections and the incidence of cognitive impairment and increases life expectancy [27].

Brazil has been a pioneer in providing free antiretrovirals through the Unified Health System. Initially, people only received treatment when the CD4 counts was  $<500$  cells/mm<sup>3</sup>; however, starting in 2013, after meeting the recommendation of the World Health Organisation (WHO) to start treatment early, regardless of their immune status, antiretroviral therapy (ART) was offered to everyone living with HIV/AIDS. Thus, the recommendation for early initiation of highly active antiretroviral therapy (HAART) considers the benefits related to the reduction of morbidity and mortality,

decreased transmission of infection, and increased well-being and quality of life [28].

Thus, satisfaction with treatment, based on improvement in health determinants, leads to understanding the benefits of using medications, providing a greater ability to follow treatment. Positive attitudes towards ART can be seen to facilitate treatment adherence, as PLHIV report not wanting to experience the disease; therefore, attempt to follow the treatment correctly [18].

Absence or delays in work hours due to the need for medical returns are common situations. The presentation of certificates at work, even without identifying the disease, can mark the beginning of a process of visibility of the patient's condition and the possibility of discriminatory behaviour, with the risk of the patients losing their right to take care of their health and work [29].

The high level of education presented by the study population (completed high school or higher education) shows that the LGBT individuals served by the municipality have good educational backgrounds, corroborates other studies carried out with PLHIV/AIDS [20,30].

The correlation between low education and unsatisfactory adherence, even with a borderline value as to statistical significance, corroborates the literature and reinforces the evidence that people with few years of study have less information about the disease and treatment and insufficient understanding of the role of antiretroviral drug (ARV), which enhances non-adherence to treatment. Furthermore, schooling, which is commonly associated with income levels, is an indirect indicator of socioeconomic status. In short, HIV-positive people with less education may experience worse living conditions and the presence of other stressors, in addition to those related to the experience of seropositivity, with a negative impact on self-care and adherence to treatment [1,20].

The predominance of single people found in the study is consistent with the reality of the LGBT population, who still encounter legal and cultural barriers to the family constitution. Although a stable relationship does not always mean better adherence to treatment [31], social and family support is important for the person treated for HIV/AIDS and, when this support is insufficient, the risk of depression and hopelessness increases. Therefore, investment in attention to psychosocial aspects involving the social support network plays a fundamental role in alleviating emotional overload and, consequently, improving the

quality of life of PLHIV, favouring adherence to treatment [32].

Sexual transmission of HIV corroborates the literature, which points to an increase in the number of HIV/AIDS cases due to sexual transmission [7]. Unprotected sexual relations with a partner carrying the virus is the main transmission route of HIV infection [33]. Preventive activities include increased adherence to condom use; however, some groups, such as homosexuals, although being aware of the benefits of condom use and the risks of not using it, choose not to use it during sexual practices [30]. Given the many difficulties regarding the non-use of condoms, the government launched some combined prevention strategies for HIV/AIDS, which remain the main form of preventing HIV/AIDS [5,7,34].

The prevalence of drug use in the LGBT community was six times higher than that in the general population. This can be explained by lack of social acceptance faced by these individuals, who find refuge in drug use [35,36].

According to the Ministry of Health's 'Clinical Protocol and Therapeutic Guidelines for the Management of HIV Infection in Adults', the use of psychoactive substances is associated with changes in the serum concentration of drugs and low adherence to ART [28]. Therefore, attention to lifestyle should be a part of the non-pharmacological interventions to optimise ART and avoid the appearance of comorbidities, whether or not associated with HIV [37].

In this context, the proposal for comprehensive health care in Brazil is based on the construction of a single care network, interconnected in all its instances, to organise services at different levels of complexity, as a proposal to meet the needs of the person in undergoing health care [38].

In the case of the municipality of São José do Rio Preto, there is a network of specialised services, such as the Psychosocial Care Centre for Alcohol and Other Drugs, which provides support to other PHC services, according to individual needs, and may include the use of nightly hospital beds. For the treatment of drug addicts living with HIV, the municipality adopts a harm reduction strategy, which does not require abstinence for the inclusion of the person in the treatment and uses different means to work with losses resulting from drug addiction, offering help to family members of drug users, with specialised guidance and support [39].

The LGBT population experiences multiple disparities in healthcare and have less access to the services and care offered. Currently, assistance to this population challenges health professionals, especially

in the development and implementation of actions that overcome the historical stigmatising approach associated with creating pathological identity categories [40].

Therefore, the health needs of each individual are defined by the interactions and the relationships they establish with the professionals on the health team [40].

Finally, it should be noted that a recent study on the association between press freedom/LGBT freedom and the prevalence of PLHIV, using data from 148 countries (96.7% of the world population), showed that LGBT freedom is associated with an increased risk of HIV infection in countries with less press freedom, while in countries with greater press freedom, LGBT freedom is associated with a reduced risk of HIV infection. These results show that the press plays an important role in reducing vulnerabilities and controlling HIV transmission in the LGBT population and can contribute to countries reaching the goal proposed by the WHO to end the AIDS epidemic by 2030 [41].

#### *Limitations of the study*

Some limitations were found in the CCCD instrument used to collect the study's data, such as variables without information, which can weaken the analysis of the vulnerability profile of PLHIV/AIDS attended to by the service. Additionally, the instrument does not include variables considered important, such as the stage of treatment, date of the last visit to the unit, medications currently in use, patients with other diseases, current health status, and hospitalisation. Another difficulty encountered was the scarcity of recent studies on the sociodemographic, clinical, and individual vulnerability profiles of the LGBT population, both in Brazil and in other countries. Research on the LGBT population is directed toward the violence, prejudice, and discrimination experienced by this community and LGBT policies.

#### **Conclusions**

The study showed that the prevalence of HIV/AIDS was high in economically active young adults, those belonging to the white race/colour, those with single marital status, those with high school education, males, homosexuals, and drug users. The characteristics of the individual vulnerability of the LGBT people studied involve, among other aspects, issues of gender and social exclusion, a situation that is part of the daily life of PLHIV/AIDS in many scenarios and territories. This can be alleviated with a network of social and health support and effective and efficient, protective, attitudinal, and behavioural public policies.

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