

# Risky Sexual Behavior among People Living with HIV in Brazzaville: Prevalence and Associated Factors

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## ABSTRACT

**Introduction:** Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) infection is still a global health challenge, better still a societal problem. Antiretroviral therapies have improved the quality of life of people living with HIV, making them potential subjects of transmission in the event of risky behavior.

**Objectives:** To describe the socio-demographic characteristics of the study population, to determine the prevalence of risky sexual behavior, to identify the factors associated with risky sexual behavior in Brazzaville.

**Methods:** A descriptive and analytical cross-sectional study was carried out between March and September 2022 in the care centers for PLHIV in Brazzaville. PLHIV receiving ART for at least six months who agreed to participate in the study were included. The socio-demographic characteristics, those relating to the disease, behaviour, psychosocial and those related to the desire for procreation were the variables studied. The statistical test used was Pearson's or FISHER's Chi2 and the odds ratio with adjustment. The significance level was set at 0.05.

**Results:** On these criteria, 1002 people living with HIV/ART were interviewed. They had an average age of  $38.89 \pm 9.45$  years, a secondary education level  $n=688$  (64.74%), an average socioeconomic level  $n=774$  (77.24%). The prevalence of risky sexual behavior is 78.04%. Female sex (OR 2.67, 95% CI 1.02-2.97), lack of pre-test counseling (OR 2.10, 95% CI 1.17- 5.52), lack of knowledge modes of transmission (OR 1.59, 95% CI 1.21-3.34), occasional partners (OR 1.89, 95% CI 0.84-2.12), alcohol consumption before sexual relations (OR 1.14, 95% CI 1.09-2.87), non-disclosure of serological status (OR 2.14, 95% CI 1.07-2.22) and ignorance of the serological status of the Partner(s) (OR 2.17, 95% CI 1.40-4.22) were associated with risky sexual behavior.

**Conclusion:** The high prevalence of risky sexual behaviors and the importance of the associated factors identified require that positive prevention programs be strengthened while emphasizing enhanced communication for the development of a global approach to care for PLHIV by integrating sexual health.

**Keywords:** Risky Sexual Behaviors, People Living with HIV, Prevalence, Associated Factors, Brazzaville, Congo

## Introduction

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) infection is still a global health challenge, if not a societal problem. Antiretroviral therapies have improved the quality of life of people living with HIV, making them potential subjects of transmission in the event of risky sexual behavior, when the viral load is not completely suppressed.

The objectives were to describe the socio-demographic characteristics of the study population, determine the prevalence of risky sexual behaviour and identify factors associated with risky sexual behaviour in Brazzaville.

## Patients and Method

A descriptive and analytical cross-sectional study was carried out between March and September 2022 (7 months) in the three care centers for PLWHA in Brazzaville, namely the infectious diseases department of the Brazzaville University Hospital, the Outpatient Treatment Center and the Bissita Center in Bacongo. All these centers are equipped to diagnose and treat patients within the framework of free HIV care nationwide. PLHIV receiving ART for at least six months who agreed to participate in the study were included. Interviews were conducted in the patients' preferred language. Patient anonymity and confidentiality were guaranteed. Socio-demographic, disease-related, behavioral, psychosocial and reproductive characteristics were studied. Qualitative variables were presented as numbers and percentages, and quantitative variables as mean and standard deviation. The

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statistical tests used were Pearson's Chi2 or FISHER and the Odd-ratio with adjustment. The significance level was set at 0.05.

Risky sexual activity was defined as sexual intercourse without a condom or with irregular condom use, with HIV-positive, HIV-negative or unknown serostatus partners in the six months preceding the study. This definition includes sexual practices such as fellatio, sodomy and oral sex.

**Results**

A total of 1002 people living with HIV/TAR were interviewed. Age. The mean age was 38.9 ± 9.45 years. Females were in the majority (n=607; 60.5%), with a sex ratio (M/F) of 0.57. Six hundred and eighty-eight people (64.7%) had a secondary level of education, 774 (77.2%) had an average socio-economic level, i.e., a daily income of at least 4 euros, and 762 (76%) knew

the modes of HIV transmission (Figure 1). The prevalence of risky sexual behavior was 78%. Patients were predominantly heterosexual (M: n=297/395; 75.2%; F: n=460; 75.8%). Sexual intercourse was vaginal (M: n=296 ;91.9%, F: n=454 ;98.6%). 20% of men (n=79/395) and 25% of women (n=153/607) reported having had relations with an occasional partner. Condoms were not used because of partner refusal (n=420 ;55.3%), desire for a child (n=113 ;14.18%) (Figure 2). Female sex (OR 2.67, 95% CI 1.02-2.97), absence of pre-test counseling (OR 2.10, 95% CI 1.17-5.52), lack of knowledge of modes of transmission (OR 1.59, 95% CI 1.21-3.34), occasional partners (OR 1.89, 95% CI 0.84-2.12), alcohol consumption leading to drunkenness prior to sexual relations (OR 1.14, 95% CI 1.09-2.87), non-disclosure of serostatus (OR 2.14, 95% CI 1.07- 2.22) and not knowing the serostatus of partner(s) (OR 2.17, 95% CI 1.40-4.22) were associated with risky sexual behavior (Table 1).

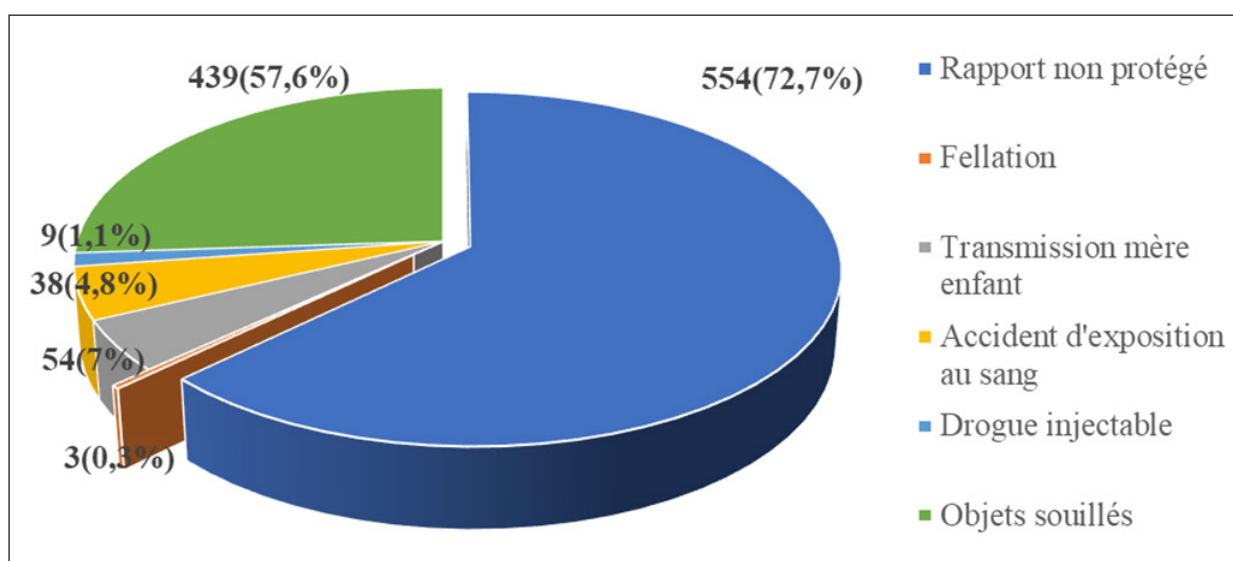


Figure 1: Knowledge of Modes of HIV Transmission

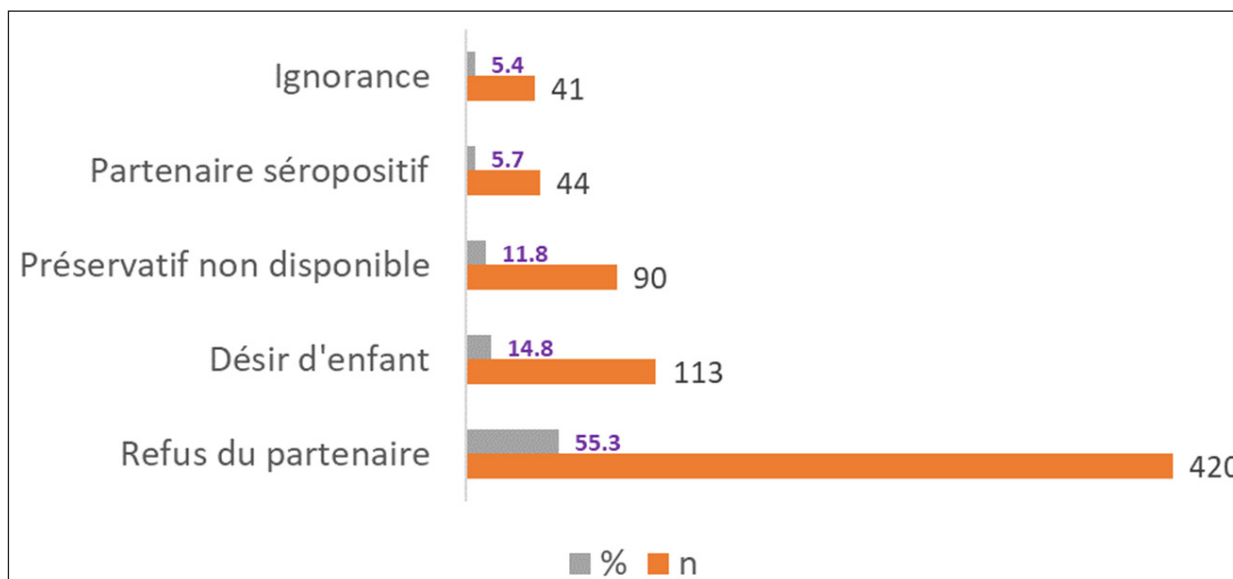


Figure 2: Reasons for not using Condoms

**Table 1: Factors Associated with Sexual Risk Behavior (SRB)**

Variables	CSR		OR	IC95%	P-Value
	Yes	No			
<b>Gender</b>					
Female	460(52,8)	147(66,8)	2,67	1,02-2,95	<b>0,0026</b>
<b>Pre-test counseling</b>					
Not done	634(81,1)	192(87,3)	2,1	1,17-5,52	<b>0,0090</b>
<b>Mode of transmission</b>					
No	265(33,8)	46(20,9)	1,59	1,21-3,54	<b>0,0020</b>
<b>Types of partners</b>					
Casual	232(29,6)	8(3,6)	1,89	0,84-0,98	<b>0,000</b>
<b>Alcohol consumption prior to SR*</b>					
Yes	89(11,4)		1,14	1,09-2,87	<b>0,000</b>
<b>Disclosure of HIV status</b>					
No	597(76,4)	169(76,8)	2,14	1,07-2,22	<b>0,0170</b>
<b>Partner's serostatus</b>					
unknown	546(69,9)	212(96,4)	2,17	1,4-4,22	<b>0,000</b>

## Discussion

The present study presents some biases related to its nature and feasibility. As sexuality is a taboo and discriminating subject, this partly explains the probable underestimation of some of the data collected. However, it does enable us to understand the difficulties of controlling the AIDS epidemic and dissociating sexuality from procreation, based on sexual risk behaviors (SRB) among people living with HIV in Brazzaville.

The prevalence of SRB is high (78%) in Brazzaville (95% CI: 76.3-85.9). Similar rates have been reported in Nigeria (70.6%) and Ethiopia (79.8%) [1,2].

Reduced access to secondary prevention tools, including condoms, as well as the desire to procreate specific to the study populations, largely justify this high rate, as found in the literature [3-7]. In Uganda (14.6%), Ethiopia (22.2%), Kenya (28%), Togo (34.6%) and Ghana (44%), the prevalence of risky sexual behavior, although high, is lower than that reported in our study [3-6,8,9]. The type of personalized interview carried out in this study for data collection with rigorous respect for privacy explain these disparities. Non-compliance with interview conditions is often a source of bias. In South Africa (82.5%), and Uganda (81%), prevalence of risky sexual behavior are much higher [7,10].

Patients with CSR were predominantly young in age and female. Low age is a risk factor in itself, due to a lack of experience that sex education can only partially replace, and sometimes, a difficulty in managing the emotion and sexual arousal specific to first sexual and/or amorous relations. This observation is similar to that made by various authors in the sub-region [3,11-13]. The predominance of females is in line with the feminization of the HIV/AIDS pandemic, as notified by UNAIDS in 2021 with a rate of 63% and reported by several authors [7,12,14-18]. In both China and Vietnam, the majority of people infected are male [16-18]. It would seem that the level of education, in conjunction

with ignorance of sexual risks, has an influence on risky sexual behaviour, but in a relatively transitory way, since the experience of sexuality does not always take into account the person's intellectual profile, as has been found elsewhere [7,12,19]. Low socio-economic status influences the type of sexual relationship to be practised, since in most cases women are obliged to accept sex without a condom in exchange for money offered by their partner. This finding varies from one study to another in the sub-region, where poverty characterizes people's living conditions [18,18].

In the African context, heterosexuality is the mode of HIV transmission most commonly found. Among people living with HIV with risky sexual behavior, heterosexuality is 96.8% in Brazzaville, with more vaginal sex (95.9%) and a not insignificant frequency of anal sex (4.1%). In Kenya, sexual relations are vaginal in 84.17% and anal in 15% [20]. In Ghana, 51% were vaginal or anal and in Croatia, 20% were anal and 6% vaginal [6,16]. Cultural and cultural differences specific to each country partly explain these disparities. Moreover, as sexuality in general and homosexuality in particular is a taboo subject, there may be a bias towards under-reporting of homosexual practices, given the stigmatization of homosexuals on the African continent, notably religious condemnation.

Condoms are the best way to protect sexual intercourse from sexually transmitted diseases. But several reasons are linked to the non-systematic use of it during sexual intercourse: confidence in their partner, negligence, the idea that the condom would be ineffective, dulling of pleasure, sexual abuse, refusal to use the condom by the partner, the desire to procreate, non-availability of the condom, the partner known to be HIV-positive, and the intake of alcohol [13].

In Brazzaville, 62.9% of PLHIV did not use condoms and 37.1% had irregular use, as in Ethiopia 77.7%, 81% in Uganda and 86.3% in South Africa [5,10]. Irregular and/or non-use of

condoms has a common denominator: low knowledge of the mode of HIV transmission and its preventive measures. In the USA, Kenya and Jamaica, regular condom use is noted in 50.6%, 71.5% and 75% of cases respectively [1,15,23].

The factors associated with risky sexual behavior identified in the present study are in line with those found by several authors.

Alcohol consumption prior to sexual relations was found to be a factor in the genesis of risky sexual behavior in 45.7% of our study population, 26% in Uganda, 14.7% in Togo and 11.8% in Ethiopia [1,25,26]. This is a health concern, as alcohol consumption among HIV-positive people has also been associated with risky sexual behavior in other studies in sub-Saharan Africa [20,22,25,26]. Similar results were also reported in a cohort study in Switzerland and North India [8,19]. The correlation between alcohol consumption and risky sexual practices could be due to reduced self-awareness and impaired judgement, which may in turn increase risky sexual practices. The fight against excessive alcohol consumption must therefore be at the heart of secondary prevention interventions.

Like all psychoactive substances, it reduces people's ability to follow good practices...

Disclosure of HIV serostatus to sexual partners is the cornerstone of public health efforts to prevent new HIV infections [25]. People living with HIV who do not disclose their seropositivity to their sexual partners and who have unprotected sex expose them to the risk of contracting HIV [27]. Some developed countries, such as France and Turkey, have introduced legislation requiring PLHIV to disclose their HIV serostatus to current and potential sexual partners [28]. In Africa, a significant proportion (17% to 86%) of PLHIV living in developing countries do not disclose seropositivity to their sexual partners for fear of abandonment, rejection and physical and verbal aggression [29]. We have, in this work, 70.5% of patients who acknowledged having informed one or more people of their seropositivity including 34% their partners. In Jamaica, South Africa, Togo, and the USA, partners were informed in 50%, 70.5%, 60.4%, and 42% of cases respectively [3,5,15,17]. The reasons for non-disclosure in Brazzaville and Ethiopia, in addition to those mentioned above, were stigmatization, social rejection and fear of divorce.

Sex is significantly associated with unprotected sex, and vulnerable women are more likely to have unprotected sex than men (OR 2.67, 95% CI 1.02-2.97). This could be due to their desire to conceive and their low economic status, as in Ethiopia, Kenya and Uganda [8,5,23]. Similar results were found in a study conducted in Cape Town, South Africa, studies which identified female gender as significantly associated with unprotected sex [26]. We would add the question of gender discrimination, sexual violence, and paid sex. In India, it has been reported that being female was less likely to use a condom than men. In contrast to our work, Nkhoma et al in Kenya, report a male predominance and, they explain it by the dominant character of the man in the daily practice of sexual relations to the point of using this authority to have unprotected intercourse [3].

Participants' knowledge of HIV transmission and prevention is associated with unprotected sex and HIV transmission. Also,

PHAs who were unaware of the modes of transmission were more at risk of inappropriate sexual behavior. Respondents with insufficient knowledge were more likely to have unprotected sex. This is consistent with findings in Tanzania and Ethiopia [11].

In this study, people who did not disclose their HIV status to sexual partners were twice as likely to have unprotected sex with partners whose HIV status was unknown. This shows that the risks of HIV transmission for many HIV-positive people arise in the context of mutual ignorance of the partner's serostatus: "it's the practice of not asking and not telling" [5,20].

Non-disclosure of seropositivity to sexual partners is part of a wider social context that involves concealment of seropositivity and discrimination against people living with HIV/AIDS. While disclosure is linked to a number of factors, including stigma, an important factor involves a person's ability to openly discuss sensitive issues around sex and relationships, particularly between non-stable partners, as well as their perception of their own risk. Disclosure of HIV status to sexual partners is therefore less likely to occur when a person has suffered negative consequences as a result of previous disclosures. Although declining slightly in recent years, levels of stigma and discrimination against people living with HIV still remain high and act as a brake on disclosure in Africa.

Other factors not associated with risky sexual behavior in this work are associated elsewhere. Such is the case with the desire to conceive [5]. The desire to have children could be due to social and cultural conceptions according to which couples have a duty to procreate, a condition of viability of the union. Such is also the case with multiple sexual partnerships, a cause of new infections or reinfections by a new strain of HIV [23].

## Conclusion

The prevalence of risky sexual behavior among people living with HIV/AIDS in Brazzaville is high. Young, sexually active people, who tend to be female, are most affected. The factors associated with risky sexual behavior identified are female gender, absence of pre-test counseling, lack of knowledge of modes of transmission, occasional partners, consumption of alcohol before sexual relations, non-disclosure of serostatus and lack of knowledge of the serostatus of partner(s).

These results suggest the need to develop additional control strategies by implementing positive prevention programs, antiretroviral treatment as a prevention tool and, at the same time, relying on strengthened communication for development in a comprehensive care approach for PLWHA by integrating sexual health.

**Conflict of Interest:** The authors stress that they have no conflict of interest in connection with the study.

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