


# Prevalence and Factors Associated with Sharing of Human Immunodeficiency Seropositivity Status among Serodiscordant Couples in the City of Parakou (Benin)

Djossou Sègnon Eurydice Elvire<sup>1,2\*</sup> , Damien Georgia Barikissou<sup>1</sup>, Meba Bio Mamatou<sup>3</sup>, Tokpanoude Ignace<sup>1,2</sup>, Ahanhanzo-Glele Rhonel<sup>4</sup>, Ataigba Iretinethania Elie<sup>5,6</sup>, Agossoukpe Benoit<sup>1</sup>, Kakpo-Zannou Rodrigue<sup>1</sup>, Kamoutchoni Corneille<sup>7</sup>, Aguemon Badirou<sup>1</sup>

<sup>1</sup>Unité de santé publique de la Faculté des Sciences de la santé (FSS), Université d'Abomey-Calavi (UAC), Cotonou, Bénin

<sup>2</sup>Association des Médecins Communautaires de Bénin (AMCB), Parakou, Bénin

<sup>3</sup>Association Béninoise pour la Promotion de la Famille (ABPF), Parakou, Bénin

<sup>4</sup>Centre d'Information, de Prospective, d'Ecoute et de Conseil sur les IST/VIH/Sida du Borgou et de l'Alibori (CIPEC/B-A), Parakou, Bénin

<sup>5</sup>Institut de Formation en Soins Infirmiers et Obstétricaux (IFSIO), Faculté de Médecine (FMP), Parakou, Bénin

<sup>6</sup>Service de Psychiatrie, Centre Hospitalier Universitaire Départemental du Borgou Alibori (CHUD/B-A), Parakou, Bénin

<sup>7</sup>Service de Médecine Interne, Hôpital Saint-Jean de Dieu de Boko, N'Dali, Bénin

Email: \*djossouelvire@hotmail.com

**How to cite this paper:** Elvire, D.S.E., Barikissou, D.G., Mamatou, M.B., Ignace, T., Rhonel, A.-G., Elie, A.I., Benoit, A., Rodrigue, K.-Z., Corneille, K. and Badirou, A. (2024) Prevalence and Factors Associated with Sharing of Human Immunodeficiency Seropositivity Status among Serodiscordant Couples in the City of Parakou (Benin). *Open Journal of Epidemiology*, 14, 1-18.

<https://doi.org/10.4236/ojepi.2024.141001>

**Received:** September 16, 2023

**Accepted:** December 24, 2023

**Published:** December 27, 2023

Copyright © 2024 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

**Introduction:** In serodiscordant couples, sharing serostatus is a crucial step in the HIV risk management process. The aim of this study was to determine the prevalence and factors associated with serostatus sharing among HIV serodiscordant couples in the city of Parakou. **Setting and methods:** This study was carried out in the city of Parakou, capital of northern Benin. It was a descriptive, analytical cross-sectional study with non-probability sampling for convenience. Socio-demographic data, as well as data on antecedents, behaviours, social and marital life, were collected using a questionnaire given to the participants. Clinical and therapeutic data were collected from patients' medical records and follow-up charts. Data were analyzed and processed using R 4.3.1 software. The significance level was set at 5%, and logistic regression was used to identify potential predictors of shared serostatus among serodiscordant couples in the city of Parakou in 2022. **Results:** A total of 299 participants in long-term serodiscordant relationships were included in our study. The average age of the subjects was  $37.55 \pm 10.25$  years. Women were the infected partner in 80.27% of cases. The most common level of education was secondary (33.45%). Most respondents (230 subjects, 76.92%) were married.

The average duration of the couple's relationship was 121.68 months  $\pm$  96.32. The most frequent screening circumstances were: Prevention of mother-to-child transmission (PMTCT) (50.84%) and hospital screening (26.09%). The infected partner shared his or her serostatus with his or her spouse in 47.83% of cases. Potential predictors of serostatus sharing within the couple were: marital status ( $p < 0.000$ ); household type ( $p = 0.016$ ); spouse's level of education ( $p = 0.004$ ); type of site ( $p = 0.001$ ) and extended family involvement in conflict management (0.001). **Conclusion:** The sharing of serostatus within serodiscordant couples needs to be managed in a way that takes into account the social and marital characteristics of the couple.

## Keywords

Serodiscordance, Sharing of Serostatus, HIV, Partner, Benin

---

## 1. Introduction

In low-prevalence countries, around 75% of partnerships affected by HIV are discordant, whereas around half are discordant in high-prevalence countries [1]. Within a discordant couple, the sharing of information is a step that can be decisive in the evolution of marital ties and, sometimes, in attitudes to prevention advice [2]. This is a crucial and decisive stage in the process of managing the risk of Human Immunodeficiency Virus (HIV) transmission within the couple, as the support of the spouse or life partner is indispensable for prevention and treatment efforts. It enables partners to take the necessary protective measures, in this case, condom use [3]. Couples in which the sharing of information about the HIV-positive partner's status has failed expose the HIV-negative partner(s) to a high risk of contamination, without his or her knowledge. In stable relationships, 87% of new infections came from the spouse [4]. The benefits of one's serostatus sharing within stable couples are not negligible. Disclosure of HIV status within a stable partnership promotes family support, which has been associated with better engagement in HIV-1 care for HIV-1-infected partners and high adherence to antiretroviral therapy (ART) [5]. In Africa, rates of sharing HIV status with partners are too low to enable prevention strategies to be applied optimally [6]. Such sharing is made all the more difficult by the fact that HIV infection is still the subject of critical discourse and forms of moral condemnation, exposing those who disclose their status to various forms of rejection from those close to them [3]. In Benin, health professionals advise their patients to inform their partners of their serostatus, particularly women, as part of the Prevention of Mother-to-Child Transmission (PMTCT) of HIV. Previous research carried out in Parakou in 2020 has highlighted a strong intention from women to share their serostatus with their partners [7], but few data express the transition from intention to action, particularly within serodiscordant couples. The aim of this study was therefore to measure the phenomenon by determining

the prevalence and identifying the factors associated with serostatus sharing among HIV serodiscordant couples in the town of Parakou, in northeastern Benin.

## 2. Setting, Patients and Study Method

### 2.1. Study Setting

This study was carried out on sites involved in the Prevention of Mother-to-Child Transmission (PMTCT) and care and support for People Living with HIV (PLHIV) in the town of Parakou, in northeastern Benin. Parakou is the country's 4<sup>th</sup> largest city, located 415 km from the capital, Cotonou. In 2019, there were 255,478 people including 127,328 men, giving a sex ratio of 0.99. The most widely spoken local language is Bariba (Baatombu) [8]. In 2015, the monetary poverty index was 24.85. The non-income poverty index was 29.7 [incidence]. Since 2001, the township has been a university town and as a result, research activities are plentiful. In terms of HIV response, Parakou has 23 PMTCT sites and 7 care and support sites.

### 2.2. Patients and Study Methods

This was a descriptive cross-sectional study with an analytical focus, conducted over a 6-month period from July to December 2022. Data were collected during a face-to-face interview in which a semi-structured questionnaire was shared. Individuals matching the following criteria were selected to participate in the present study: individuals aged 18 and over, all genders, HIV-positive, engaged in a serodiscordant relationship for at least 6 months, received during the study period and have consented to participate in the study. We used non-probability sampling for convenience. Then, subjects received during the study period at the collection sites for their follow-up appointments or antiretroviral (ARV) supply and matching the selection criteria were also offered participation in the study. Based on the prevalence of shared serostatus expressed in a similar population in Burkina Faso [9], the minimum sample size calculated using the Schwartz formula was 288 targets. Patient privacy and data confidentiality were ensured. Subjects who gave their free consent to take part in the study were surveyed, with the assurance that they could withdraw at any time. To ensure greater openness on subjects that are sometimes sensitive or even taboo, the data collectors were health staff assigned to dispensing ARVs and keeping medical records. They were trained and assisted during the first days of data collection to ensure the quality of the data collected. The questionnaire, validated by the research unit, was structured in two parts: the first part focused on the life and experiences of the respondents and covered the socio-demographic aspects of the participants, their background, their behaviours in relation to managing the risk of HIV transmission, and their day-to-day experience of serodiscordance at the marital and psycho-social levels. The second part of the questionnaire collected clinical and therapeutic data from the patients' files.

A couple is defined here as two people of the opposite sex, linked by common

interests, commitments and projects, who have decided to live together regardless of their residential status and form of union. Sharing of serostatus within a couple was defined as self-reported sharing of HIV status information with a current or recent partner whose serostatus is known and negative.

Data processing and analysis were performed using R 4.3.1 software. Quantitative variables were expressed by their mean and standard deviation. Categorical or quantitative variables were presented by their proportion. A significance level of 5% was used to confirm the statistical link between the two variables. The Pearson Chi-square test (numbers > 5) or the Fisher test (numbers ≤ 5) were used to compare qualitative variables. Logistic regression was used to determine which of the statistically associated variables were potential predictors of shared serostatus among serodiscordant couples in the city of Parakou in 2022.

### 3. Results

Over the study period, 328 People Living with HIV (PLHIV) meeting the inclusion criteria were approached to participate in the study. A total of 27 targets refused to take part in the study. These were mainly women being followed up at PMTCT sites, who did not wish to linger in the ARV dispensing premises, for fear of being labelled by any acquaintances they met at the site. Two (2) PLHIV withdrew their consent during the interview. In all, 299 participants were included.

#### 3.1. Descriptive Characteristics of Respondents

##### 3.1.1. Socio-Demographic Characteristics of Respondents (Table 1)

The average age of the subjects was  $37.55 \pm 10.25$  years, with extremes of 20 and 73 years. Most subjects were 32 years old, and the 30 to 39 age group was the largest (38.13% of participants). Women were the infected subject in 80.27% of cases. Muslim and Christian religions were the most practiced, in identical proportions (48.83% of cases). Commercial occupations were the most represented (39.46%), and 76.59% of respondents had a monthly income of less than 50,000 CFA francs. More than a third of the respondents in our study (33.45%) had secondary education, and 89.30% lived in urban areas.

##### 3.1.2. Spouses' Socio-Demographic Characteristics (Table 2)

The average age of the spouses was  $41.37 \pm 9.55$  years (CI 95% [40.86 - 42.75]), with extremes of 17 and 72 years. The age gap between spouses (in absolute value) was on average  $7.67 \pm 5.27$ , [0 - 28 years]. Islam was the religious denomination most often practiced by spouses (48.49%). They were mostly craftsmen and workers (25.75%) and service professionals (22.41%). More than one spouse in two had secondary or primary education, with 34.78% and 26.42% respectively.

##### 3.1.3. Household Characteristics (Table 3)

Most of the respondents involved in discordant relationships (230 subjects, 76.92%) were married. The average household size was  $4.86 \pm 2.41$  individuals, with extremes of 1 and 25 members. The average duration of the couple's rela-

tionship was 121.68 months  $\pm$  96.32, *i.e.* approximately 10.14 years  $\pm$  8.03. The most recent relationships lasted 7 months and the oldest 520 months. Households of 3 to 5 individuals were the most represented with 54.45% of couples. The respondent was head of household in only 88 couples (29.43%). Both spouses were in a close relationship in most cases (229 couples, or 76.59% of cases). Condom use was not systematic among serodiscordant couples; only 132 respondents (44.15%) used condoms with their partner.

#### **3.1.4. Clinical and Therapeutic Characteristics (Table 4)**

Clinical status was good in most cases (93.98%). The most frequent screening circumstances were: Prevention of Mother-to-Child Transmission (PMTCT) of HIV (50.84%) and hospital screening (26.09%). The viral load of respondents was undetectable in nearly 84% of cases. Adherence to antiretroviral therapy (ART) was good in almost 86% of cases. The largest number of participants were recruited at the care sites (65.22% of cases).

#### **3.1.5. Characteristics Related to the Respondents' Social Support Network (Table 5)**

Among spouses who had benefited from sharing their serostatus, 40.80% had a positive attitude towards their infected partner. A total of 17 respondents (5.69%) said they were victims of stigmatization, and 23.75% of them ( $n = 71$ ) benefited from social support in the event of difficulties within the couple. Tensions within couples were reported by 25.75% of respondents.

### **3.2. Sharing of Serostatus with Partner**

#### **3.2.1. Prevalence**

Of the 299 targets surveyed, only 143 had shared their serostatus within couples, *i.e.* a prevalence of 47.83% (IC 95% [42.2 - 53.5]). This included 32 men and 111 women, for a gender-specific sharing rate of 54.24% and 46.25% for men and women respectively. Nearly one in six participants ( $n = 47$ , or 15.72%) had shared their status outside the couple, most often with brothers (9.70%) and ascendants (9.36%).

#### **3.2.2. Reasons for no Sharing**

The main reasons for not sharing a serostatus with one's partner were: the risk of eviction from the marital home, fear of stigmatization/discrimination and the risk of disclosure of serostatus (Figure 1).

### **3.3. Variables Associated with Shared Serostatus in Univariate Analysis**

Several variables showed a statistically significant association at the  $\alpha = 5\%$  threshold with HIV serostatus sharing.

#### **3.3.1. Relationship between Shared Serostatus within Couples and Socio-Demographic Variables**

The socio-demographic variables showing a statistically significant relationship

with sharing of serostatus with the spouse, at the  $\alpha = 5\%$  threshold were: marital status, household type and spouse's level of education (**Table 6**). Compared with the 20 - 30 age group, respondents in the 30 - 39 age group and those over 50 seemed to share their serostatus more, but this difference was not significant ( $p = 0.353$ ). Female respondents seemed to share their serostatus less than males ( $OR < 1$ ), but not significantly ( $p = 0.271$ ). Married participants were 3.37 times more likely to share their serostatus with their spouse than those who were not ( $p < 0.001$ ). On the other hand, living in a polygamous household halved the odds of sharing one's serostatus with one's partner ( $p = 0.006$ ). The higher the spouse's level of education, the greater the chances of sharing status within the couple, although this difference was only statistically significant with higher levels of education ( $p = 0.025$ ).

### **3.3.2. Relationship between Clinical and Therapeutic Variables and Shared Serostatus within Couples**

Our study established a statistically significant link between sharing of serostatus and type of site, as well as adherence to ART (**Table 7**). In univariate analysis, good adherence to ART and follow-up at a PMTCT site increased the chances of sharing serostatus within the couple by a factor of 2 and 1.8 respectively ( $p = 0.045$ ).

### **3.3.3. Relationship between Marital and Social Variables and Sharing of HIV Status within Couples**

There was a statistically significant relationship between serostatus sharing, extended family involvement and the outcome of the couple's relationship (**Table 8**). In couples who had experienced the separation or death of a spouse, the chances to share one's serostatus were reduced by at least 66% ( $p = 0.001$ ). The involvement of the extended family in managing the couple's difficulties increased the chances of serostatus sharing with the partner by a factor of 2 ( $p = 0.007$ ). Satisfaction with the couple's relationship and the existence of stigmatizing behaviours in the entourage seemed to increase by 1.6 and 2 the chances of sharing serostatus within the couple, but not in a statistically significant way ( $p = 0.129$  and  $p = 0.159$  respectively).

## **3.4. Potential Predictors of Shared Serostatus in Discordant Couples**

Of the eight variables statistically associated with shared serostatus in univariate analysis, five potential predictors were retained by the multivariate analysis model. These were: marital status, household type, spouse's level of education, type of site and involvement of extended family (**Table 9**).

Married PLHIV were 4 times more likely to share their serostatus with their spouse than unmarried participants ( $p < 0.001$ ). Being involved in a polygamous household halved the chances of a PLHIV in the city of Parakouto sharing their serostatus with their spouse ( $p = 0.016$ ). The higher the spouse's level of education, the greater the chances that the respondent would share his status with

him. Thus, when the spouse had a higher level of education, the chances of his HIV-positive partner sharing his status with him were multiplied by 3 ( $p = 0.008$ ). PLHIV treated at PMTCT sites were 3 times more likely to share their HIV status with their partner than those treated at ECP sites ( $p = 0.001$ ). The support and involvement of extended families in day-to-day conflict management increased the chances of serostatus sharing among serodiscordant couples by a factor of 2.7 ( $p = 0.001$ ).

**Table 1.** Distribution of socio-demographic characteristics of respondents—Parakou, 2022.

	Workforce (n = 299)	Percentage
<b>Age range (years)</b>		
[20 - 29]	70	23.41
[30 - 39]	114	38.13
[40 - 49]	80	26.76
[50 - 76]	35	11.70
<b>Gender</b>		
Male	59	19.73
Female	240	80.27
<b>Religion</b>		
Endogenous religions	7	2.34
Christianity	146	48.83
Islam	146	48.83
<b>Profession</b>		
Unemployed	36	12.04
Primary sector occupations (farmers, breeders)	18	6.02
Manual processing (craftsmen and workers)	67	22.41
Trade occupations (shopkeepers, retailers)	118	39.46
Service professions	42	14.05
Civil servants	18	6.02
<b>Monthly income of respondents (FCFA)</b>		
[0 - 50.000[	229	76.59
[50.000 - 100.000[	48	16.05
[100.000 - 340.000]	22	7.36
<b>Couples' monthly income (F CFA) (n = 259)</b>		
[0 - 50.000[	53	20,46
[50.000 - 100.000[	32	50,97
[100.000 - 200.000[	51	19,69
[200.000 - 450.000]	23	8,88

**Continued****Education level**

None	79	26.42
Primary	92	30.77
Secondary	100	33.45
Higher	28	9.36

**Residence**

Urban	267	89.30
Rural	32	10.70

**Table 2.** Distribution of socio-demographic characteristics of spouses—Parakou, 2022.

	<b>Workforce (n = 299)</b>	<b>Percentage</b>
<b>Spouses' religion</b>		
Islamism	145	48.49
Christianity	142	47.49
Endogenous religions	12	4.02
<b>Spouse's profession</b>		
Unemployed	14	4.68
Primary sector trades (farmers, breeders)	32	10.70
Processing trades (craftsmen and workers)	77	25.75
Trade occupations (shopkeepers, retailers)	58	19.40
Service professions	67	22.41
Civil servants	51	17.06
<b>Spouses' level of education</b>		
None	68	22.74
Primary	79	26.42
Secondary	104	34.79
Higher	48	16.05

**Table 3.** Distribution of respondents by marital status—Parakou, 2022.

	<b>Workforce (n = 299)</b>	<b>Percentage</b>
<b>Marital status</b>		
Married	230	76.92
Unmarried	69	23.08
<b>Type of household</b>		
Monogamous	196	65.65



**Continued**

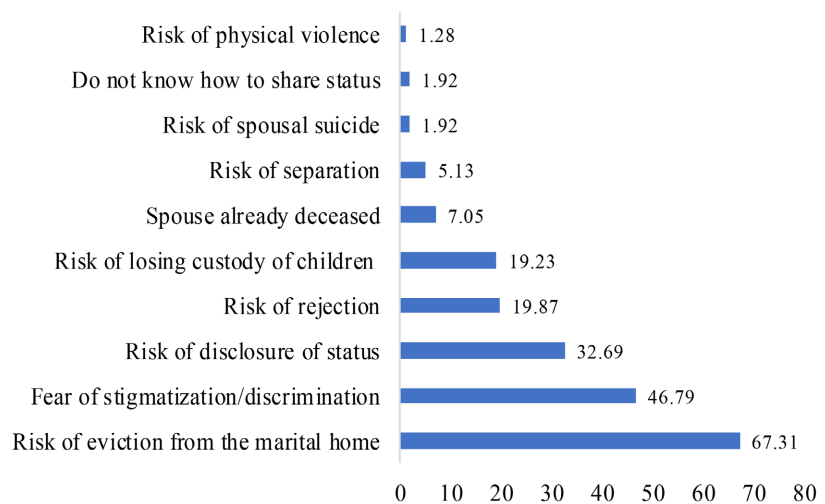
Polygamous	103	34.45
<b>Age of relationship (months)</b>		
[7 - 60[	86	28.76
[60 - 120[	80	26.76
[120 - 240[	88	29.43
[240 - 520]	45	15.05
<b>Long-distance relationship</b>		
No	229	76.59
Yes	70	23.41
<b>Condom use in couple</b>		
No	167	58.85
Yes	132	44.15

**Table 4.** Description of clinical and therapeutic characteristics of respondents—Parakou, 2022.

	<b>Workforce (n = 299)</b>	<b>Percentage</b>
<b>Clinical condition</b>		
Poor	18	6.02
Good	281	93.98
<b>Viral load</b>		
Detectable	48	16.05
Undetectable	251	83.95
<b>ART compliance</b>		
Poor	42	14.05
Good	257	85.95
<b>Circumstances of screening</b>		
PMTCT	152	50.84
Hospital screening	78	26.09
Voluntary testing	66	22.07
Family screening	3	1.00
<b>Type of site</b>		
ECP sites	195	65.22
PMTCT sites	104	34.78

**Table 5.** Distribution of respondents according to support and social network parameters—Parakou, 2022.

	Workforce (n = 299)	Percentage
<b>Spouse's attitude to illness</b>		
Hostile	21	7.02
Good	122	40.80
Unspecified	156	52.18
<b>Tensions within couples</b>		
No	222	74.25
Yes	77	25.75
<b>Physical violence</b>		
No	284	94.98
Yes	15	5.02
<b>Relationship satisfaction</b>		
No	59	19.73
Yes	240	80.27
<b>Outcome of relationship</b>		
Continuity	261	87.29
Separation	26	8.70
Death of spouse	12	4.01
<b>Involvement of extended family in conflict management</b>		
No	228	76.25
Yes	71	23.75
<b>Victim of stigmatization</b>		
No	282	94.31
Yes	17	5.69

**Figure 1.** Reasons for no sharing of serostatus—Parakou, 2022.

**Table 6.** Relationship between socio-demographic variables and sharing of serostatus with spouse—Parakou, 2022.

	Sharing of status with partner		OR (IC 95%)	p
	No (%)	Yes (%)		
<b>Age (years)</b>				0.353
[20 - 29]	40 (13.38)	30 (10.03)	1	
[30 - 39]	53 (17.73)	61 (20.40)	1.53 (0.84 - 2.80)	0.162
[40 - 49]	46 (15.38)	34 (11.37)	0.99 (0.51 - 1.89)	0.965
[50 - 76]	17 (5.69)	18 (6.02)	1.41 (0.62 - 3.19)	0.407
<b>Gender</b>				0.271
Male	27 (9.03)	32 (10.70)	1	
Female	129 (43.14)	111 (37.12)	0.73 (0.41 - 1.29)	
<b>Marital status</b>				
Unmarried	51 (17.05)	18 (6.02)	1	
Married	105 (35.12)	125 (41.81)	3.37(1.86 - 6.13)	<0.001
<b>Type of household</b>				
Monogamous	91 (30.43)	105 (35.12)	1	
Polygamous	65 (21.74)	38 (12.71)	0.51 (0.31 - 0.83)	0.006
<b>Partner's level of education</b>				0.039
No education	40 (13.38)	28 (9.36)	1	
Primary education	48 (16.06)	31 (10.37)	0.92 (0.48 - 1.79)	0.811
Secondary education	50 (16.72)	54 (18.06)	1.54 (0.83 - 2.86)	0.169
Higher education	18 (6.02)	30 (10.03)	2.38 (1.12 - 5.08)	0.025

**Table 7.** Relationship between clinical and therapeutic variables and sharing of serostatus with spouse—Parakou, 2022.

	Sharing of status with partner		OR (IC 95%)	p
	No (%)	Yes (%)		
<b>Clinical condition</b>				
Good	144 (48.16)	137 (45.82)	1	
Poor	12 (4.01)	6 (2.01)	0.53 (0.19 - 1.44)	0.204
<b>Viral load</b>				
Detectable	31 (10.37)	17 (5.69)	1	
Undetectable	125 (41.81)	126 (42.14)	1.84 (0.97 - 3.49)	0.060
<b>ART compliance</b>				
Poor	28 (9.36)	14 (4.68)	1	
Good	128 (42.81)	129 (43.15)	2.02 (1.01 - 4.00)	0.045

**Continued**

<b>Type of site</b>				
ECP	110 (36.79)	85 (28.43)	1	
PMTCT	46 (15.38)	58 (19.40)	1.63 (1.01 - 2.63)	0.045

**Table 8.** Relationship between marital and social variables and sharing of serostatus among discordant couples—Parakou, 2022.

	<b>Sharing status with partner</b>		<b>OR (IC 95%)</b>	<b>p</b>
	<b>No (%)</b>	<b>Yes (%)</b>		
<b>Relationship satisfaction</b>				
No	36 (12.04)	23 (7.69)	1	
Yes	120 (40.13)	120 (40.13)	1.56 (0.87 - 2.80)	0.129
<b>Reproductive difficulties</b>				
No	124 (41.47)	123 (41.14)	1	
Yes	32 (10.70)	20 (6.69)	0.63 (0.34 - 1.16)	0.137
<b>Tensions within the couple</b>				
No	115 (38.46)	107 (35.79)	1	
Yes	41 (13.71)	36 (12.04)	0.94 (0.56 - 1.59)	0.827
<b>Outcome of relationship</b>				
Continuity	126 (42.14)	135 (45.15)	1	
Separation	19 (6.36)	7 (2.34)	0.34 (0.14 - 0.85)	0.020
Death of spouse	11 (3.68)	1 (0.33)	0.08 (0.01 - 0.67)	0.019
<b>Involvement of extended family</b>				
No	129 (43.14)	99 (33.11)	1	
Yes	27 (9.03)	44 (14.72)	2.12 (1.23 - 3.67)	
<b>Victim of stigma</b>				
No	150 (50.17)	132 (44.15)	1	
Yes	6 (2.01)	11 (3.68)	2.08 (0.75 - 5.79)	0.159

**Table 9.** Potential predictors of shared serostatus among HIV serodiscordant couples - Parakou, 2022.

	<b>ORa</b>	<b>IC 95%</b>	<b>p</b>
<b>Marital status</b>			
Unmarried	1		
Married	4.26	2.22 - 8.17	< 0.001
<b>Type of household</b>			
Monogamous	1		

**Continued**

Polygamous	0.51	0.30 - 0.88	0.016
<b>Partner's level of education</b>			0.004
No education	1		
Primary education	0.70	0.34 - 1.45	0.340
Secondary education	1.55	0.79 - 3.06	0.205
Higher education	3.15	1.34 - 7.40	0.008
<b>Type of site</b>			
ECP	1		
PMTCT	3.11	1.63 - 5.92	0.001
<b>Involvement of extended family</b>			
No	1		
Yes	2.74	1.49 - 5.03	0.001

**4. Discussion****4.1. Prevalence of Shared Serostatus**

According to the results obtained in our study, the prevalence of serostatus sharing among serodiscordant couples in the city of Parakou in 2022 was 47.83%. While the intention to share one's serostatus is high, as shown by Alasani *et al.* [7] in Parakou in 2020 with a proportion of 92.41%, actual sharing in the event of the announcement of a positive result remains low. Couterut and Desclaux [7] in Senegal reported a serostatus sharing rate of 66%, but only 27% of cases were shared with the spouse. For Kouanda *et al.* [3] in Burkina Faso, while 81.4% of PLHIV surveyed had shared their serostatus with at least one person, the spouse was the recipient of this information in only 28.8% of cases.

Our result is lower than that reported by Millogo [9] in Burkina Faso, where 75% of participants had informed their HIV-negative spouse. Other authors have found higher proportions of status sharing than we have, but these studies were carried out within couples without distinction as to the status of the spouses. Yaya [10] in Sokodé, Togo; Diemer [11] in Bangui and Yaméogo [12] in Burkina-Faso reported prevalences of 60.9%, 70.3% and 59.1% respectively. For Rispel *et al.* [13], in Tanzania and South Africa, 81% of seropositive participants had disclosed their serodiscordant status to a third party. However, very few lived openly as a serodiscordant couple. The wide gap between the intention to share one's HIV status and the actual act of doing so undoubtedly echoes the major difficulties faced by PLHIV in our society. There are multiple barriers, mainly social in nature [2], which prevent infected people from sharing their status. This leads to fears of increased risk-taking within couples, with a heightened risk of transmission, both sexual and vertical. For the adoption of preventive changes aimed at averting any further risk of sexual transmission of HIV

requires informing the partner and, subsequently, getting him or her to adhere to these strategies. In our study, while all participants were on ART (100.0%), 14% showed poor adherence and 16% had a high viral load. This implies the adoption of additional preventive strategies, which cannot be discussed with the spouse unless he or she is informed of his or her partner's HIV status. Thus, according to our results, nearly three out of five respondents (58.85%) did not use a condom with their partner. Strategies to prevent transmission of the virus within these couples are therefore not optimal, contrary to the recommendations made by health workers and care protocols.

#### 4.2. Reasons for not Sharing Serostatus

For the 156 participants (52.17%) who had not shared their serostatus with their spouse, the reasons most often cited were: the risk of being expelled from the marital home, fear of stigmatization/discrimination among participants and the risk of disclosure of serostatus.

Alassani *et al.* [7], in a study about pregnant women in Parakou, found that the main reasons women gave for sharing their status with their partner were to seek their partner's support (42.6%) and to have their partner as a confidant (29.2%). According to the same authors, 87.5% of women who had not shared their serostatus with their spouse have mentioned fear of repudiation. In Burkina Faso, sharing of status information was considered a risk to stability and peace in the home [9]. Sow reports that women fear the destabilization of their household, as well as the conflicts and suspicions that might ensue. Thus, not informing their partner would be a way of protecting themselves [14]. Kra highlighted the following as the main reasons for not sharing in Bouaké: fear of disclosure (15.7%), lack of trust (15.7%), fear of rejection or abandonment (15.4%), stigmatization (14.4%) and discrimination (12.5%) by family and friends [15].

Fear of rejection and fear of losing one's social status thus appear to be the main barriers to sharing the serostatus of surveyed PLHIV with their spouses, beyond the risk of transmission.

#### 4.3. Sharing of Serostatus by Gender

In our study, 54.24% of men had shared their serostatus, compared with 46.25% of women. This finding was made by Obermeyer [16] in Burkina-Faso, where women shared their serostatus less frequently than men. In fact, only 33% of women versus 67% of men had disclosed their HIV status to their partner. For Kouanda *et al.* on the other hand, men shared their HIV status with their partners more frequently than women, but this difference was not statistically significant ( $p = 0.6$ ). Yaméogo reported that men shared more information with their partners than women ( $p < 0.001$ ) [12].

This may be explained by the status of women in African societies, which makes them more vulnerable to the possible negative consequences that could result from the announcement of their serostatus, especially in the specific case

of serodiscordance. For Coutherut and Desclaux, gender inequalities underlie the low rates of sharing by women: women in situations of dependence on their spouse announce their status less than others [7]. Women are less likely to share their serostatus with their partners, for fear that their infection will be attributed to “infidelity” or “an immoral sexual history” [9].

#### **4.4. Factors Associated with Serostatus Sharing among Couples in the City of Parakou in 2022**

##### **4.4.1. Type of Site**

The results of our study show that being followed up at a PMTCT site multiplies the chances of sharing by 3.11. Sharing of HIV status with a partner is encouraged by the WHO, and health professionals are expected, during post-test counseling, to discuss with consultants how to share (especially if HIV status is positive) with the partner or a third party [7]. This pressure from health workers to share status, which is a significant factor in the success of ART, is an additional motivating factor for HIV-positive women followed up at these sites.

##### **4.4.2. Marital Status and Household Type**

Being married multiplied the chances of sharing serostatus with a spouse by 4.26. In Burkina Faso, 66.7% of patients living with a partner informed their spouse of their serostatus [3]. Marital status implies a certain “obligation” towards one’s spouse. The HIV-positive person in a discordant relationship may therefore feel “obliged”, whether morally or otherwise, to share his or her serostatus with his or her life partner. For Théry [17], life as a couple implies a “duty to tell”. For her, the obligation to inform one’s partner is seen not only as a moral obligation, given the risks of transmission, but also as self-evident, especially when cohabitation is involved: the very notion of “couple” is at stake. To remain silent would be “a lie”, calling into question the relationship at its very heart, the trust and sharing of life for two. As for being in a polygamous relationship, it reduced the chances of sharing HIV status within couples by 49%. Non-sharing was more common in polygamous households than in monogamous ones [9]. The negative effects of sharing, such as backbiting, avoidance, rejection, separation, or divorce, would be all the greater. As Sow sees it, women often fear disclosure of their status to their co-wives, whose reactions can range from acceptance and solidarity to collective rejection outside the home [14].

##### **4.4.3. Partner Level of Education**

According to the results of our study, the fact that an HIV-positive respondent had a spouse with a higher level of education tripled the chances of sharing his or her serostatus with the latter, compared with those whose spouse had no education at all. This may be explained by the fact that a high level of education goes hand in hand with a high level of knowledge about the disease, making it easier for the spouse to accept the discordant status. However, most HIV-positive subjects

will only share their status if they believe their partner will accept it, or provide psychological or financial support [9].

#### 4.4.4. Involving the Extended Family in Managing Difficulties

Family involvement in conflict management among HIV serodiscordant couples in the city of Parakou in 2022 multiplies the chances of serostatus sharing by 2.74 compared to couples without this support. In the context of HIV, social support is essential for a peaceful experience of infection and serodiscordance. Family support at this stage can be an additional confidence-building factor, particularly in Africa, where the extended family is likely to exercise (to varying degrees) a significant role and power over the individuals within it [2].

### 5. Conclusion

Sharing one's serostatus with one's partner is still low in Parakou, even though this recommendation has been made for many years, particularly to HIV-positive women undergoing PMTCT care. The factors that play a part in the real motivation of PLWHA are more conjugal and social nature than personal or therapeutic. It is therefore crucial to take these social and marital factors into account in order to provide the best advice to those concerned and to personalize recommendations. Then, improving adherence to treatment in the context of secrecy should reduce the risk of transmission within discordant couples.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

### References

- [1] Chemaitelly, H., Cremin, I., Shelton, J., Hallett, T.B. and Abu-Raddad, L.J. (2012) Distinct HIV Discordancy Patterns by Epidemic Size in Stable Sexual Partnerships in Sub-Saharan Africa. *Sexually Transmitted Infections*, **88**, 51 p. <https://doi.org/10.1136/sextrans-2011-050114>
- [2] Tijou-Traoré, A. (2006) Pourquoi et Comment en Parler? Dialogue Conjugal Autour de l'Annonce de la Séropositivité Dans des Couples Sérodiscordants à Abidjan (Côte d'Ivoire). *Sciences Sociales et Santé*, **24**, 43-67. <https://doi.org/10.3917/sss.242.0043>
- [3] Kouanda, S., Yaméogo, W.M.E., Berthé, A., Bila, B., Bocoum, Y.F.K., Somda, A., Doulogou, B., Sanou, M.J., Sondo, B. and Msellati, P. (2012) Partage de l'Information sur le Statut Sérologique VIH Positif: Facteurs Associés et Conséquences pour les Personnes Vivant avec le VIH/Sida au Burkina Faso. *Revue d'Épidémiologie et de Santé Publique*, **60**, 221-228. <https://doi.org/10.1016/j.respe.2011.12.135>
- [4] Allen, S., Meizen-Derr, J., Kautzman, M., Zulu, I., Trask, S., Fideli, U., Musonda, R., Kasolo, F., Gao, F. and Haworth, A. (2003) Sexual Behavior of HIV Discordant Couples After HIV Counseling and Testing. *AIDS*, **17**, 733-740. <https://doi.org/10.1097/00002030-200303280-00012>
- [5] Curran, K., Baeten, J.M., Coates, T.J., Kurth, A., Mugo, N.R. and Celum, C. (2012)



- HIV-1 Prevention for HIV-1 Serodiscordant Couples. *Current HIV/AIDS Reports*, **9**, 160-170. <https://doi.org/10.1007/s11904-012-0114-z>
- [6] Couterut, J., Desclaux, A. and Groupe d'étude ANRS 1215 (2014) Le Partage du Statut Sérologique des Personnes Vivant avec le VIH à 10 ans de Traitement Antirétroviral au Sénégal. *Bulletin de la Société de pathologie exotique*, **107**, 266-272. <https://doi.org/10.1007/s13149-014-0343-z>
- [7] Alassani, A., Cissé, I.M., Imorou, R.S., Gomina, M., Alassan, K.S., Codjo, L., Dohou, H. and Gandaho, P. (2020) Déterminants du Dépistage Volontaire, du Partage du Statut Sérologique et Prévalence de l'Infection VIH chez les Gestantes Suivis à Parakou. *Revue Malienne d'Infectiologie et de Microbiologie*, **15**, 38-42. <https://doi.org/10.53597/remim.v15i2.1730>
- [8] Gouvernement de la République du Bénin (2022) Destination Bénin : PARAKOU, ville cosmopolite et pôle économique du septentrion. Gouvernement de la République du Bénin, Consulté le: 18 avril 2022. <https://www.gouv.bj/actualite/939/destination-benin---parakou--ville-cosmopolite-pole-economique-septentrion/>
- [9] Millogo, A., Toe, P., Sanon, A., Konaté, B., Tassemedo, S. and Traoré, I.T. (2022) Représentations du VIH/Sida et Partage de l'Information sur la Sérologie Dans les Couples Sérodifférents au Burkina Faso. *Santé Publique*, **34**, 727-736. <https://doi.org/10.3917/spub.225.0727>
- [10] Taverne, B., Desclaux, A., Sow, P.-S., Delaporte, E. and Ndoeye, I. (2012) Evaluation de l'impact bioclinique et social, individuel et collectif, du traitement ARV chez des patients VIH-1 pris en charge depuis 10 ans dans le cadre de l'ISAARV-Cohorte ANRS 1215. Rapport final. <https://ird.hal.science/ird-00718213>
- [11] Yaya, I., Saka, B., Landoh, D.E., Patchali, M.P., Aboubakari, S.A., Makawa, M.S., N'Dri, K.M., Senanou, S., Lamboni, B., Idrissou, D., Salaka, K.T. and Pitche, P. (2016) CO15: Partage du Statut Sérologique au Partenaire Sexuel Chez les Personnes Vivant avec le VIH Sous Traitement Antirétroviral au CHR de Sokodé, Togo. *Annales de Dermatologie et de Vénérologie*, **143**, S26. [https://doi.org/10.1016/S0151-9638\(16\)30142-9](https://doi.org/10.1016/S0151-9638(16)30142-9)
- [12] Diemer, S.-C.H., Longo, J-d-D., Tekpa, G., Gaunefet, C.E. and Ngbale, R.N. (2018) Facteurs Associés à la Divulgateion du Statut de Séropositivité au VIH à Bangui. *Santé Publique*, **30**, 397-403. <https://doi.org/10.3917/spub.183.0397>
- [13] Yaméogo, W.M.E., Bila, B. and Kouanda, S. (2008) Genre et partage de l'information relative au statut sérologique pour le VIH. *Revue burkinabè de la recherche: Sciences de la santé, Hors-série 1*, 41-50. <https://www.researchgate.net/publication/280635725>
- [14] Rispel, L.C., Cloete, A. and Metcalf, C.A. (2015) 'We Keep Her Status to Ourselves': Experiences of Stigma and Discrimination among HIV-Discordant Couples in South Africa, Tanzania and Ukraine. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, **12**, 10-17. <https://doi.org/10.1080/17290376.2015.1014403>
- [15] Sow, K. (2013) Partager l'information sur son statut sérologique VIH dans un contexte de polygamie au Sénégal. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, **10**, S28-S36. <https://doi.org/10.1080/02664763.2012.755322>
- [16] Kra, K.O., Aba, A., Effi-Angbo, A.O., Koné, K.D. and Kadiané, K.N.J. (2014) A-21: Les raisons du non partage du statut sérologique chez les personnes vivant avec le VIH en Afrique noire. *Médecine et Maladies Infectieuses*, **44**, 24 p. [https://doi.org/10.1016/S0399-077X\(14\)70104-0](https://doi.org/10.1016/S0399-077X(14)70104-0)

- [17] Obermeyer, C.M., Sankara, A., Bastien, V. and Parsons, M. (2009) Gender and HIV testing in Burkina Faso: An Exploratory Study. *Social Science & Medicine*, **69**, 877-884. <https://doi.org/10.1016/j.socscimed.2009.07.003>