

Prevalence and Psychosocial Factors of Serodiscordance in Couples Followed at the Centre of Excellence in Lubumbashi, Democratic Republic of the Congo

Manda Mukendi Dodo^{1*}, Lokotshe Kanyama Astrid¹, Tshibangu Manyonga Emmanuel², Mbuyamba Mutombo Nathalie¹, Kalumba Kambote Athy^{1,3,4}, Nyembo Lukamba Jerome¹, Kandja Lwamba Guy¹, Elo Mbomba David¹, Njibu Ebondo Jirene¹, Panshi wa Panshi Odon¹, Mbayo Malemba Jerry⁵, Kasamba Ilunga Eric^{3,4}, Mulwani Makelele Basile⁶, Lungu Anzwal Philomene^{1,3}

¹Centre of Excellence for the Care of People Living with HIV/AIDS, Faculty of Medicine, University of Lubumbashi, Lubumbashi, Democratic Republic of the Congo

²Always Better Psychology Clinic, Lubumbashi, Democratic Republic of the Congo

³Department of Biomedical Sciences, Faculty of Medicine, University of Lubumbashi, Lubumbashi, Democratic Republic of the Congo

⁴Laboratory of the University Clinics of Lubumbashi, Faculty of Medicine, University of Lubumbashi, Lubumbashi, Democratic Republic of the Congo

⁵Pediatric Department, Cinquantenaire Hospital of Lubumbashi, Lubumbashi, Democratic Republic of the Congo

⁶Faculty of Psychology and Educational Sciences, University of Lubumbashi, Lubumbashi, Democratic Republic of the Congo

Email: *eldomanda@gmail.com

How to cite this paper: Dodo, M.M., Astrid, L.K., Emmanuel, T.M., Nathalie, M.M., Athy, K.K., Jerome, N.L., Guy, K.L., David, E.M., Jirene, N.E., Odon, P.P., Jerry, M.M., Eric, K.I., Basile, M.M. and Philomene, L.A. (2026) Prevalence and Psychosocial Factors of Serodiscordance in Couples Followed at the Centre of Excellence in Lubumbashi, Democratic Republic of the Congo. *World Journal of AIDS*, 16, 61-74.

<https://doi.org/10.4236/wja.2026.163005>

Received: June 23, 2026

Accepted: August 28, 2026

Published: August 31, 2026

Abstract

Introduction: Serodiscordance where one partner in a couple is HIV-positive and the other is HIV-negative—poses a major challenge in the fight against HIV/AIDS, particularly in sub-Saharan Africa. Despite its epidemiological relevance, little is known about this phenomenon in Lubumbashi, Democratic Republic of the Congo (DRC). **Methods:** A cross-sectional study was conducted from January 15 to March 31, 2025 at the Lubumbashi Center of Excellence for HIV/AIDS. A total of 132 couples were enrolled. Data were collected using structured questionnaires, validated scales (HSS-10 for stigma, MOS for social support), and medical records. Statistical analysis was performed using Jamovi software (version 2.4). **Results:** Serodiscordance prevalence was 68.2%. Pre-exposure prophylaxis (PrEP) was used by only 8.3% of participants, and consistent condom use was reported by 14.4%. High perceived stigma was associated with a 40% decrease in antiretroviral adherence (OR = 0.60; $p < 0.01$). Higher education and strong social support were



positively associated with the use of prevention tools. Factors associated with the use of prevention tools were a secondary or higher education level (OR = 2.10; 95% CI: 1.15 - 3.82), high social support (OR = 1.75; 95% CI: 1.02 - 3.01) and a low level of stigmatization (OR = 0.60; 95% CI: 0.42 - 0.85). **Conclusion:** Serodiscordant couples are highly prevalent in Lubumbashi but remain underserved. Social stigma, lack of education, and structural barriers limit the effectiveness of biomedical prevention strategies. Community-based interventions and improved access to HIV prevention tools are urgently needed.

Keywords

HIV, Serodiscordance, PrEP, Stigma, Social Support, Lubumbashi, Couple

1. Introduction

Since its emergence in the 1980s, the human immunodeficiency virus (HIV) has remained one of the most pressing health, social, and economic challenges worldwide. In 2022, the number of people living with HIV (PLHIV) was estimated at 39 million, with nearly 29 million (74%) living in low- and middle-income countries, predominantly in sub-Saharan Africa, which accounts for 67% of cases [1]. Despite significant progress in access to testing, antiretroviral (ARV) treatment, and prevention, the dynamics of transmission remain complex, particularly within the context of intimate relationships.

Serodiscordance, defined as the situation where one partner in a couple is HIV-positive and the other HIV-negative, represents a major epidemiological and psychosocial problem. In highly endemic contexts such as those of southern and central Africa, between 30 and 50% of couples living with HIV are serodiscordant [2] [3]. This form of relational vulnerability constitutes one of the most significant vectors of new infections, particularly in urban areas where mobility, economic inequalities, and marital instability are common [4].

Indeed, longitudinal studies have shown that serodiscordant couples contribute to nearly 40% of new heterosexual infections in some regions of East Africa [5]. These couples often face major obstacles in managing their situation: fear of transmission, fear of rejection, social stigma, emotional isolation, power imbalances within the couple, and sometimes gender-based violence [6] [7]. Without structured support, these psychosocial factors seriously compromise preventive behaviors and adherence to treatment.

Current prevention strategies—grouped under the term combined prevention—include antiretroviral therapy as a prevention tool (TasP), pre-exposure prophylaxis (PrEP) for HIV-negative partners, consistent condom use, and viral load suppression [8]. However, the effective adoption of these measures is often hampered by psychosocial and structural barriers: limited access to care, misinformation, stigma, restrictive sociocultural norms, and women's economic dependence [9] [10].

In the Democratic Republic of the Congo (DRC), the national HIV prevalence is estimated at 1.2%, but this average masks significant regional disparities. In urban centers such as Lubumbashi, the capital of Haut-Katanga province, the most recent data indicate a prevalence of around 4.5% [11]. Despite this concerning epidemiological burden, data on the prevalence of HIV mismatch and its psychosocial determinants remain largely insufficient. A survey conducted in Kinshasa revealed that more than 60% of people living with HIV had not disclosed their HIV status to their partners, citing primarily fear of rejection, stigma, or financial dependence [12].

In this context, it becomes imperative to produce up-to-date local data to guide public health policies, but also to equip health services to better meet the specific needs of serodiscordant couples. In particular, studies show that education level, risk perception, quality of social support, and marital communication dynamics significantly influence prevention-related decisions [13] [14]. An integrated approach that considers both biomedical and psychosocial factors is therefore essential to ensure an effective and sustainable response.

2. Study Objectives

The aim of this study is to contribute to the reduction of HIV transmission in Lubumbashi by:

- 1) Determining the prevalence of serodiscordance among couples followed in a specialized center.
- 2) Identifying the psychosocial factors influencing the implementation of prevention strategies and therapeutic adherence.

3. Methodology

3.1. Type and Design of the Study

This study is an observational, quantitative, cross-sectional, and analytical survey designed to estimate the prevalence of serodiscordance among couples receiving care at a specialized HIV/AIDS center in Lubumbashi and to identify the psychosocial factors associated with the adoption of preventive behaviors (PrEP, condoms) and treatment adherence. This design was chosen because of its effectiveness in describing a situation at a given time and exploring associations between variables in a resource-limited setting [15].

3.2. Study Framework

The study was conducted at the HIV/AIDS Centre of Excellence at the University of Lubumbashi, located in Lubumbashi, the capital of Haut-Katanga province, in the Democratic Republic of the Congo (DRC). This centre, supported by technical and financial partners such as PEPFAR and ICAP-Columbia, is a provincial reference centre for integrated HIV care, with an annual patient base of approximately 3500 people living with HIV receiving regular follow-up.

3.3. Study Period

Data collection took place from January 15 to March 31, 2025. This period was chosen based on the availability of clinical data and the stability of patient flow in the center.

3.4. Study Population and Eligibility Criteria

3.4.1. Target Population

The study focused on serologically distinct couples or couples with known HIV status, where at least one partner was receiving care at the center. A couple was defined here as a conjugal or common-law union of at least 6 months, declared by both partners.

3.4.2. Inclusion Criteria

- A couple consisting of an individual living with HIV and their tested partner.
- Age ≥ 18 years for both partners.
- Stable union relationship (≥ 6 months).
- Free, informed and signed consent from both partners.
- Existence of a medical file for at least one partner in the center.

3.4.3. Exclusion Criteria

- Incomplete or unusable clinical data.
- Refusal to participate by one or both partners.
- Couples in which the serological status of the partner is unknown or unverifiable.

3.5. Sample Size and Sampling Technique

The sample size was calculated based on an expected serodiscordance prevalence of 50% ($p = 0.5$), a 95% confidence level, a margin of error of 7.5%, and a power of 80%. This resulted in a minimum sample size of 132 couples, to which a 25% margin was added to compensate for missing data, leading to a total of 175 recruited couples.

A non-probability convenience sampling technique was used, due to the specialized nature of the center and the confidentiality required in identifying couples.

A total of 175 couples were initially recruited. After verifying eligibility criteria and data quality, 43 couples were excluded from the final analysis. Among them, 18 had incomplete medical records, 11 had undocumented partner serological status, 8 withdrew before the end of the interview, and 6 submitted incomplete questionnaires. The final analysis thus included 132 couples with complete data (**Table 1**).

The sample studied comprised 132 couples, with a mean age of 47.8 ± 11.3 years. The majority of participants were male (64.4%). Regarding education level, more than half had completed secondary school (51.5%), while 27.3% had a higher education, and 21.2% had only primary school. In terms of employment status,

40.9% were employed, 31.8% were self-employed, and 27.3% were unemployed. The mean duration of the relationship was 6.3 ± 4.7 years, indicating relative marital stability within the sample. These data describe a predominantly male adult population with a middle to high level of education, but exhibiting significant socioeconomic diversity.

Table 1. Socio-demographic characteristics of the studied population (N = 132 couples).

Variable	Mean ($\pm$ SD) or n (%)
Average age of partner	47.8 $\pm$ 11.3 years
Sex	Men: 85 (64.4%)
	Women: 47 (35.6%)
Education level	Primary: 28 (21.2%)
	Secondary: 68 (51.5%)
	Higher Education: 36 (27.3%)
Main occupation	Employed: 54 (40.9%)
	Self-employed: 42 (31.8%)
	Unemployed: 36 (27.3%)
Average duration of the union	6.3 $\pm$ 4.7 years

3.6. Data Collection Methods

Data collection was carried out using a structured questionnaire administered face-to-face by trained interviewers, in French or Swahili, according to participants' preferences. The questionnaire was pre-tested on 10 couples to validate its clarity and relevance.

3.7. Variables Studied

Sociodemographic variables: age, sex, education level, occupation, duration of relationship, number of children.

The main unit of analysis was the couple. Individual variables (age, sex, education level, occupation) corresponded to the partner living with HIV (index participant).

Clinical variables: serological status, duration since HIV diagnosis, viral load, treatment adherence.

Therapeutic adherence was defined as the self-reported intake of at least 95% of prescribed doses over the past 30 days, verified by medical records when this information was available. This variable was coded into two categories: good adherence ($\geq 95\%$) and poor adherence ($< 95\%$). The use of prevention tools was defined as PrEP use by the HIV-negative partner and/or consistent condom use during sexual intercourse over the past three months. The variable was coded Yes/No.

3.8. Psychosocial Variables

The analysis focused on several key psychosocial dimensions, measured using

validated tools adapted to the local context:

- Perceived Stigma: Stigma was assessed using the HIV Stigma Scale-10 (HSS-10), which comprises ten items rated from 1 to 4. The total score ranges from 10 to 40, with a score above 25 indicating a high level of stigma, consistent with previous studies. The scale was translated from French to Swahili using the translation-back-translation method and then pretested with ten couples. The internal consistency observed in our sample was satisfactory (Cronbach's $\alpha = 0.86$).
- Assessed using the scale developed by Turan *et al.* [6], adapted to the socio-cultural realities of the region.
- Social support, measured using the MOS (Medical Outcomes Study) scale developed by Sherbourne and Stewart [13], covering emotional, instrumental and affective support.
- Social support was measured using the Medical Outcomes Study Social Support Survey (MOS-SSS). Scores were transformed on a scale of 0 to 100, with a score ≥ 60 considered high social support. Internal consistency was excellent ($\alpha = 0.91$).
- Communication within the couple regarding HIV, assessed by the existence or absence of open discussions on serological status and prevention measures.
- Perception of the risk of transmission, that is to say the degree of awareness and personal assessment of the danger of contamination for the seronegative partner.
- Use of PrEP and/or condoms as behavioral indicators of prevention.

Finally, objective data from medical records (including viral load, frequency of consultations and therapeutic history) were used to corroborate self-reported data, thus strengthening the validity of the analyses.

3.9. Data Analysis

The data were entered and cleaned in Microsoft Excel 2021, then transferred to Jamovi software (version 2.4.6), known for its user-friendly interface, powerful statistical analysis, and alignment with research reproducibility standards [16].

3.9.1. Descriptive Analysis

- Quantitative variables: means, standard deviations, medians.
- Qualitative variables: absolute and relative frequencies (n, %).

3.9.2. Bivariate Analysis

The chi-square test (or Fisher's exact test) is used for associations between categorical variables (e.g., serodiscordance vs. stigmatization). The Student's t-test is used for comparing means based on the normality of distributions.

3.9.3. Multivariate Analysis

A binary logistic regression was performed to identify independent predictors of serodiscordance (dependent variable = 1 if serodiscordant pair, 0 otherwise). The

results are presented as odds ratios (OR) with their 95% confidence intervals (95% CI). A p -value < 0.05 was considered statistically significant.

3.10. Ethical Considerations

The study received approval from the Ethics Committee of the UNILU HIV/AIDS Centre of Excellence. All participants received a detailed explanation of the objectives and potential risks and signed an informed consent form. The data were anonymized and stored securely. The study adheres to the principles of the Declaration of Helsinki [17] and the ethical guidelines of the National HIV/AIDS Control Program (PNLS).

4. Results

Table 2. Prevalence of serodiscordance.

Serological status of the couple	Number (%)
Discordant	90 (68.2%)
Positive concordant	42 (31.8%)

Among the couples included in the study, 68.2% had discordant serological status, while 31.8% were concordantly positive. This high proportion of serodiscordant couples highlights a major epidemiological challenge for HIV prevention in Lubumbashi, justifying targeted interventions focused on the couple (Table 2).

Table 3. Use of prevention tools and adherence to treatment.

Variable	Frequency (%)
Use of PrEP	11 (8.3%)
Consistent use of condoms	19 (14.4%)
Reported ARV adherence	81 (61.5%)
Undetectable viral load	62 (47.0%) (data partially available)

The data reveal low PrEP use (8.3%) and limited consistent condom use (14.4%) among serodiscordant couples. Regarding self-reported adherence to antiretroviral therapy (ART), 61.5% of participants reported correctly following their treatment. However, only 47% had an undetectable viral load, according to the partially available biological data. These results reflect a concerning gap between self-reported behaviors and objective virological markers, and highlight the need to strengthen treatment adherence and effective access to prevention methods (Table 3).

Viral load data were available for 86 participants (65.2%). Missing data (34.8%) were primarily due to the absence of recent biological monitoring or incomplete records. No imputation methods were used; analyses were performed solely on the available data.

Table 4. Psychosocial factors: stigmatization and social support.

Psychosocial factor	Mean score $\pm$ SD or n (%)
Average stigma score	26.8 $\pm$ 7.4
High score (>25)	57 (43.2%)
Social Support Score (MOS)	62.3 $\pm$ 10.5
High social support	78 (59.1%)

Descriptive analysis shows that perceived stigma is moderately high in the sample, with a mean score of 26.8 ± 7.4 , and that 43.2% of participants report a high level of stigma (score > 25). Conversely, social support, measured by the MOS scale, reaches a mean score of 62.3 ± 10.5 , with 59.1% of respondents receiving high levels of social support. These data highlight the importance of psychosocial dimensions in HIV management: stigma remains present for nearly half of the individuals, while strong social support may play a protective role for the majority (Table 4).

Table 5. Multivariate analysis of predictors of PrEP and condom use.

Independent factor	Adjusted OR (95% CI)	P
Education level (secondary+)	2.10 (1.15 - 3.82)	0.012
High stigma	0.60 (0.42 - 0.85)	0.005
High social support	1.75 (1.02 - 3.01)	0.038
Female sex (reference = male)	1.33 (0.81 - 2.74)	0.211

Multivariate analysis of predictors of PrEP and condom use highlights three factors significantly associated with better adoption of prevention strategies in Lubumbashi. A secondary education level or higher doubles the probability of use (OR = 2.10; $p = 0.012$). Conversely, high stigma significantly reduces this probability by 40% (OR = 0.60; $p = 0.005$). High social support increases the chances of using prevention tools by 75% (OR = 1.75; $p = 0.038$). Female sex is not a significant factor in this model (OR = 1.33; $p = 0.211$). These results confirm the central role of psychosocial and educational determinants in the adoption of protective behaviors (Table 5).

5. Discussion

5.1. An Alarming Prevalence of Serodiscordance in Lubumbashi: A Worrying Epidemiological Signal

The results of our study highlight a particularly high prevalence of serodiscordance among couples followed at the Lubumbashi HIV/AIDS Center of Excellence, reaching 68.2%. This rate significantly exceeds those reported in Kinshasa (54%, [12]) as well as in several sub-Saharan African capitals, such as Nairobi (47%, [18]), Abidjan (51%, [19]), and Kampala (53%, [3]). These discrepancies suggest

that Lubumbashi could represent a specific area of vulnerability, linked in particular to rapid urbanization, increased population mobility, and low coverage of targeted prevention programs. The urgent need for systematic screening of couples, as recommended by Dunkle *et al.* [4], thus appears to be a strategic priority for the national response.

The predominance of men among HIV-positive partners (65.5%) further reinforces a trend already documented in the literature: men not only have lower rates of voluntary testing [20], but are also less involved in early care pathways. This dynamic is part of an unequal gender system where women, despite their biological and social vulnerability, often play a passive role in negotiations related to sexuality and prevention.

5.2. Low Adoption of Biomedical Prevention Strategies: Between Lack of Awareness, Accessibility and Social Resistance

The effectiveness of pre-exposure prophylaxis (PrEP) and treatment as prevention (TasP) is now well established [8] [21]. Yet, only 8.3% of serodiscordant couples in our study reported using them. This figure, much lower than those observed in South Africa (26%, [22]) and Kenya (22%, [23]), highlights significant gaps in information, accessibility, and cultural acceptability.

Consistent condom use also remains marginal (14.4%), despite WHO recommendations [24]. Several structural and psychosocial barriers explain this low adherence: the perception of condoms as a barrier to intimacy, reproductive pressure, and stereotypes of masculinity [25] [26]. These obstacles cannot be overcome without an approach centered on gender relations and marital communication.

5.3. Weight of Psychosocial Determinants: Stigmatization, Isolation and the Role of Social Support

Stigma remains a major barrier across the continuum of care. Our analyses reveal that individuals with high stigma scores are 40% less likely to adhere to antiretroviral therapy, confirming the findings of Turan *et al.* [6], Nyblade *et al.* [27], and Earnshaw *et al.* [28]. Fear of social rejection, internalized shame, and guilt heavily influence preventive behaviors, exacerbating the vulnerability of couples.

Conversely, strong social support—measured by the MOS scale [13]—is positively correlated with condom use (OR = 1.75). This support, particularly when it comes from a partner or family, fosters a climate conducive to communication, stress management, and therapeutic engagement [10] [29]. These results confirm that interventions must include a community and relational dimension to be truly effective.

5.4. Education as a Structural Lever for Change

A high level of education is significantly associated with better adoption of prevention tools, particularly condoms. This finding is consistent with analyses by UNAIDS [1] and the work of Piot *et al.* [30], which emphasize the importance of

health literacy in understanding public health messages. In the Congolese context, characterized by chronic underinvestment in education [31], strengthening girls' education and promoting awareness programs adapted to all school levels could have a multiplier effect on HIV prevention.

5.5. Marital Silence and Social Norms: The Unacknowledged Aspects of Prevention

Another major obstacle identified in this study is the lack of communication within couples. Many couples have never discussed each other's HIV status or prevention methods. This silence, documented by Kalichman *et al.* [32] and World Health Organization [33], reflects sociocultural norms where talking about HIV is perceived as a threat to marital harmony or masculinity. However, the lack of disclosure significantly increases the risk of transmission. Effective prevention therefore requires a change in social norms, supported by community communication campaigns and the involvement of religious and traditional leaders.

5.6. Methodological Limitations and Scope of Results

While our research provides valuable insights, certain limitations must be acknowledged. The relatively small sample size ($n = 132$ couples) limits the generalizability of the results. Furthermore, the use of self-reported data introduces a social desirability bias, which could compromise the validity of the responses. Finally, recruitment from a specialized center could exclude couples not enrolled in the healthcare system, particularly those experiencing extreme hardship or living in remote areas.

Despite these limitations, data triangulation (questionnaires, medical records, validated scales) lends methodological robustness to the study. The observed results are consistent with the trend of studies conducted in East Africa, but differ from those carried out in Asia or Latin America, where the adoption of community strategies such as decentralized PrEP distribution or the involvement of local authorities has proven more efficient [34]-[37].

In an epidemiological context marked by a high prevalence of serodiscordance, the results of this study call for a redefinition of public health priorities in the DRC. The systematic integration of couples into prevention programs, the promotion of PrEP beyond pilot sites, the fight against institutional stigmatization, and the creation of psychosocial support services are all urgent areas for action. Drawing on the recommendations of the WHO [24] and UNAIDS [1], a couple-centered approach, sensitive to cultural realities and rooted in local communities, emerges as the most promising path to curb the dynamics of HIV transmission.

6. Conclusions

This study highlights a concerning prevalence of serodiscordance (68.2%) among couples followed at the HIV/AIDS Center of Excellence at the University of Lubumbashi, a figure significantly higher than regional averages, revealing the

magnitude of a challenge often underestimated in the fight against HIV. This finding is striking both for its epidemiological dimension and its psychosocial implications, underscoring the specific vulnerability of these couples in the transmission chain.

The results clearly show that structural factors (level of education, access to information) and psychosocial factors (social support, stigma) directly influence prevention behaviors and adherence to treatment. The low use of PrEP (8.3%) and condoms (14.4%) reflects a worrying gap between biomedical recommendations and their actual adoption, often hampered by cultural, logistical, and symbolic barriers.

Given these findings, a strictly biomedical approach is insufficient. Responding to HIV in the context of serodiscordance requires a comprehensive, integrated, and multisectoral strategy that links health policies, community education, psychosocial support, and research. Only such an approach, contextualized and sensitive to cultural realities, can effectively address the challenges posed by serodiscordance and contribute to a sustainable reduction in new infections.

The recommendations made aim to strengthen the capacities of health systems, to equip communities to better live with serodiscordance, and to support couples in a shared prevention approach, respectful of their dignity, their choices and their specific needs.

Conflicts of Interest

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

References

- [1] UNAIDS (2023) Global HIV & AIDS Statistics—2023 Fact Sheet. UNAIDS. <https://www.unaids.org/en/resources/fact-sheet>
- [2] Eyawo, O., de Walque, D., Ford, N., Gakii, G., Lester, R.T. and Mills, E.J. (2010) HIV Status in Discordant Couples in Sub-Saharan Africa: A Systematic Review and Meta-Analysis. *The Lancet Infectious Diseases*, **10**, 770-777. [https://doi.org/10.1016/s1473-3099\(10\)70189-4](https://doi.org/10.1016/s1473-3099(10)70189-4)
- [3] Bunnell, R., Ekwaru, J.P., Solberg, P., Wamai, N., Bikaako-Kajura, W., Were, W., *et al.* (2006) Changes in Sexual Behavior and Risk of HIV Transmission after Antiretroviral Therapy and Prevention Interventions in Rural Uganda. *AIDS*, **20**, 85-92. <https://doi.org/10.1097/01.aids.0000196566.40702.28>
- [4] Dunkle, K.L., Stephenson, R., Karita, E., Chomba, E., Kayitenkore, K., Vwalika, C., *et al.* (2008) New Heterosexually Transmitted HIV Infections in Married or Cohabiting Couples in Urban Zambia and Rwanda: An Analysis of Survey and Clinical Data. *The Lancet*, **371**, 2183-2191. [https://doi.org/10.1016/s0140-6736\(08\)60953-8](https://doi.org/10.1016/s0140-6736(08)60953-8)
- [5] Donnell, D., Baeten, J.M., Kiarie, J., Thomas, K.K., Stevens, W., Cohen, C.R., *et al.* (2010) Heterosexual HIV-1 Transmission after Initiation of Antiretroviral Therapy: A Prospective Cohort Analysis. *The Lancet*, **375**, 2092-2098. [https://doi.org/10.1016/s0140-6736\(10\)60705-2](https://doi.org/10.1016/s0140-6736(10)60705-2)
- [6] Turan, B., Smith, W., Cohen, M.H., *et al.* (2016) Mechanisms for the Negative Effects of Internalized HIV-Related Stigma on Antiretroviral Therapy Adherence in Women:

- The Mediating Roles of Social Isolation and Depression. *Journal of Acquired Immune Deficiency Syndromes*, **72**, 198-205.
- [7] Kingori, C., Reece, M., Obeng, S., Murray, M., Shacham, E., Dodge, B., et al. (2012) Impact of Internalized Stigma on HIV Prevention Behaviors among HIV-Infected Individuals Seeking HIV Care in Kenya. *AIDS Patient Care and STDs*, **26**, 761-768. <https://doi.org/10.1089/apc.2012.0258>
- [8] Cohen, M.S., Chen, Y.Q., McCauley, M., Gamble, T., Hosseinipour, M.C., Kumarasamy, N., et al. (2016) Antiretroviral Therapy for the Prevention of HIV-1 Transmission. *New England Journal of Medicine*, **375**, 830-839. <https://doi.org/10.1056/nejmoa1600693>
- [9] Ware, N.C., Idoko, J., Kaaya, S., Biraro, I.A., Wyatt, M.A., Agbaji, O., et al. (2009) Explaining Adherence Success in Sub-Saharan Africa: An Ethnographic Study. *PLOS Medicine*, **6**, e1000011. <https://doi.org/10.1371/journal.pmed.1000011>
- [10] Nachega, J.B., Uthman, O.A., Peltzer, K., et al. (2015) Association between Antiretroviral Therapy Adherence and Employment Status: Systematic Review and Meta-Analysis. *Bulletin of the World Health Organization*, **93**, 29-41.
- [11] Programme National de Lutte contre le Sida (PNLS) (2023) Rapport annuel 2023 de la lutte contre le VIH/SIDA en République Démocratique du Congo. Ministère de la Santé, RDC.
- [12] Kieto, E., Matamba, G., Henry, E., Bernier, A., Mukumbi, H., Abadie, A., et al. (2014) Factors Associated with HIV Voluntary Disclosure of People Living with HIV to Their Steady Sexual Partner in the Democratic Republic of the Congo: Results from a Community-Based Participatory Research. *Pan African Medical Journal*, **19**, Article No. 276. <https://doi.org/10.11604/pamj.2014.19.276.5304>
- [13] Sherbourne, C.D. and Stewart, A.L. (1991) The MOS Social Support Survey. *Social Science & Medicine*, **32**, 705-714. [https://doi.org/10.1016/0277-9536\(91\)90150-b](https://doi.org/10.1016/0277-9536(91)90150-b)
- [14] Mabuto, T., Latka, M.H., Kuwane, B., Churchyard, G.J., Charalambous, S. and Hoffmann, C.J. (2014) Four Models of HIV Counseling and Testing: Utilization and Test Results in South Africa. *PLoS ONE*, **9**, e102267. <https://doi.org/10.1371/journal.pone.0102267>
- [15] Levy, P.S. and Lemeshow, S. (2013) Sampling of Populations: Methods and Applications. 4th Edition, John Wiley & Sons.
- [16] The Jamovi Project (2023) Jamovi (Version 2.4.6) [Computer Software]. <https://www.jamovi.org>
- [17] World Medical Association (2013) Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. *64th WMA General Assembly*, Fortaleza, October 2013.
- [18] Were, E., Wools-Kaloustian, K., Baliddawa, J., Ayuo, P.O., Sidle, J. and Fife, K. (2008) Stakeholders Perception of HIV Sero-Discordant Couples in Western Kenya. *East African Medical Journal*, **85**, 326-333.
- [19] Lingappa, J.R., Kahle, E., Mugo, N., Mujugira, A., Magaret, A., Baeten, J., et al. (2009) Characteristics of HIV-1 Discordant Couples Enrolled in a Trial of HSV-2 Suppression to Reduce HIV-1 Transmission: The Partners Study. *PLoS ONE*, **4**, e5272. <https://doi.org/10.1371/journal.pone.0005272>
- [20] Venkatesh, K.K., Srikrishnan, A.K., Safren, S.A., Triche, E.W., Thamburaj, E., Prasad, L., et al. (2011) Sexual Risk Behaviors among HIV-Infected South Indian Couples in the HAART Era: Implications for Reproductive Health and HIV Care Delivery. *AIDS Care*, **23**, 722-733. <https://doi.org/10.1080/09540121.2010.525616>

- [21] Baeten, J.M., Donnell, D., Ndase, P., Mugo, N.R., Campbell, J.D., Wangisi, J., *et al.* (2012) Antiretroviral Prophylaxis for HIV Prevention in Heterosexual Men and Women. *New England Journal of Medicine*, **367**, 399-410. <https://doi.org/10.1056/nejmoa1108524>
- [22] Schwartz, S.R., Bassett, J., Holmes, C.B., Yende, N., Phofa, R., Sanne, I., *et al.* (2017) Client Uptake of Safer Conception Strategies: Implementation Outcomes from the Sakh'umndeni Safer Conception Clinic in South Africa. *Journal of the International AIDS Society*, **20**, Article 21291. <https://doi.org/10.7448/ias.20.2.21291>
- [23] Heffron, R., Thomson, K., Celum, C., Haberer, J., Ngunjiri, K., Mugo, N., *et al.* (2017) Fertility Intentions, Pregnancy, and Use of Prep and ART for Safer Conception among East African HIV Serodiscordant Couples. *AIDS and Behavior*, **22**, 1758-1765. <https://doi.org/10.1007/s10461-017-1902-7>
- [24] World Health Organization (2022) Guidelines on HIV Prevention, Diagnosis, Treatment and Care for Key Populations. World Health Organization.
- [25] Pettifor, A., MacPhail, C., Nguyen, N., Rosenberg, M., Parker, L. and Sibeko, J. (2013) Feasibility and Acceptability of Project Connect: A Couples-Based Hiv-Risk Reduction Intervention among Young Couples in Johannesburg, South Africa. *AIDS Care*, **26**, 476-482. <https://doi.org/10.1080/09540121.2013.841827>
- [26] Maharaj, P. and Cleland, J. (2004) Condom Use within Marital and Cohabiting Partnerships in KwaZulu-Natal, South Africa. *Studies in Family Planning*, **35**, 116-124.
- [27] Nyblade, L., Stangl, A., Weiss, E. and Ashburn, K. (2009) Combating HIV Stigma in Health Care Settings: What Works? *Journal of the International AIDS Society*, **12**, 15-15. <https://doi.org/10.1186/1758-2652-12-15>
- [28] Earnshaw, V.A., Bogart, L.M., Dovidio, J.F. and Williams, D.R. (2013) Stigma and Racial/Ethnic HIV Disparities: Moving toward Resilience. *American Psychologist*, **68**, 225-236. <https://doi.org/10.1037/a0032705>
- [29] Medley, A., Garcia-Moreno, C., McGill, S. and Maman, S. (2004) Rates, Barriers and Outcomes of HIV Serostatus Disclosure among Women in Developing Countries: Implications for Prevention of Mother-to-Child Transmission Programs. *Bulletin of the World Health Organization*, **82**, 299-307.
- [30] Piot, P. (2015) AIDS between Science and Politics. Columbia University Press. <https://doi.org/10.7312/piot16626>
- [31] World Bank (2020) The World Bank in Democratic Republic of Congo: Country Overview. World Bank Group.
- [32] Kalichman, S.C., DiMarco, M., Austin, J., Luke, W. and DiFonzo, K. (2007) Stress, Social Support, and HIV-Status Disclosure to Family and Friends among HIV-Positive Men and Women. *Journal of Behavioral Medicine*, **26**, 315-332. <https://doi.org/10.1023/a:1024252926930>
- [33] World Health Organization (2012) Guidance on Couples HIV Testing and Counseling, Including Antiretroviral Therapy for Treatment and Prevention in Serodiscordant Couples: Recommendations for a Public Health Approach. World Health Organization.
- [34] To, K.W. and Lee, S.S. (2018) HIV Pre-Exposure Prophylaxis in South East Asia: A Focused Review on Present Situation. *International Journal of Infectious Diseases*, **77**, 113-117. <https://doi.org/10.1016/j.ijid.2018.10.027>
- [35] Pulerwitz, J., Michaelis, A., Weiss, E., Brown, L. and Mahendra, V. (2019) Reducing HIV-Related Stigma: Lessons Learned from Horizons Research and Programs. *Public Health Reports*, **125**, 272-281. <https://doi.org/10.1177/003335491012500218>

- [36] de Melo, M.G., Varella, I., Gorbach, P.M., Sprinz, E., Santos, B., de Melo Rocha, T., *et al.* (2019) Antiretroviral Adherence and Virologic Suppression in Partnered and Unpartnered Hiv-Positive Individuals in Southern Brazil. *PLOS ONE*, **14**, e0212744. <https://doi.org/10.1371/journal.pone.0212744>
- [37] Grangeiro, A., Zucchi, E.M., Magno, L., Tupinambás, U., Greco, D.B. and Dourado, I. (2024) Novos horizontes na saúde sexual: explorando a PrEP e a incidência de HIV em adolescentes. *Revista de Saúde Pública*, **58**, 1-6. <https://doi.org/10.11606/s1518-8787.2024058supl1ap>