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Psychosocial Factors Influencing Family Planning among HIV-Serodiscordant Couples: A Systematic Review

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Abstract

Objective: To systematically synthesize empirical evidence on the psychosocial factors governing reproductive decision-making, family planning, safer conception, and contraceptive choices among heterosexual HIV-serodiscordant couples globally. **Materials and Methods:** A comprehensive multi-database systematic search was conducted across PubMed/MEDLINE, Scopus, PsycINFO, SAGE Journals, Wiley Online Library, Directory of Open Access Journals (DOAJ), and Google Scholar for primary studies published between January 1, 2000, and July 31, 2025. Quality appraisal was executed using an adapted 7-item Centre for Evidence-Based Management (CEBMa) critical appraisal tool. Narrative thematic synthesis was conducted in strict compliance with PRISMA 2020 reporting guidelines. **Results:** Fifteen primary empirical studies (9 qualitative, 5 quantitative, 1 mixed-methods) met all inclusion criteria. Seven overarching psychosocial themes were identified: (1) partner dynamics and communication, (2) healthcare provider support and attitudes, (3) stress and psychological trauma, (4) stigma and secrecy, (5) intimate partner violence (IPV), (6) legitimate fertility desire, and (7) economic vulnerability. Qualitative designs revealed deep emotional trauma, fear of transmission, and moral conflict, whereas quantitative studies documented physical (32.1%) and sexual (28.3%) IPV rates alongside high fertility desire. Facilitators included couples-centered counseling and mutual ART/PrEP engagement, whereas barriers included severe community stigma, judgmental provider attitudes, and female economic dependency. **Conclusion:** Biomedical advances (ART, PrEP, TasP) are necessary but insufficient without addressing complex couple psychosocial dynamics. Routine healthcare must integrate couples-oriented counseling, IPV screening, and provider stigma reduction protocols. There is an urgent imperative for primary empirical research in India and South Asia.

Keywords: HIV-serodiscordant couples, Family planning, Safer conception, Psychosocial factors, Stigma, Intimate partner violence, Systematic review.

Introduction

Antiretroviral therapy (ART) and pre-exposure prophylaxis (PrEP) have fundamentally transformed human immunodeficiency virus (HIV) clinical management, rendering viral suppression (Undetectable = Untransmittable, U=U) an achievable biomedical reality. Consequently, heterosexual HIV-serodiscordant couples—wherein one partner lives with HIV and the other is HIV-negative—can safely achieve biological pregnancy with negligible risk of horizontal or perinatal transmission. However, translating these biomedical breakthroughs into real-world reproductive autonomy remains highly complex.

Beyond clinical safety, reproductive choices are heavily dictated by relational, psychological, cultural, and socioeconomic factors. Couples encounter severe societal HIV stigma, fear of partner abandonment, gender-based power imbalances, and conflicting desires between cultural expectations of childbearing and healthcare provider resistance. While individual biomedical interventions are well-documented, a holistic synthesis of the psychosocial mechanisms shaping reproductive decision-

making across diverse global contexts is essential to inform couples-centered care.

The primary objective of this systematic literature review is to synthesize qualitative, quantitative, and mixed-methods evidence regarding the psychosocial facilitators and barriers to family planning, safer conception, and contraceptive choices among heterosexual HIV-serodiscordant couples globally.

Materials and methods

Protocol and Registration: A formal review protocol was not prospectively registered in PROSPERO prior to study initiation due to the broad exploratory nature of synthesizing qualitative, quantitative, and mixed-methods psychosocial literature across diverse low-, middle-, and high-income settings. However, review objectives, PICO eligibility criteria, search strings, and CEBMa quality appraisal standards were established prior to data extraction and executed in strict adherence to PRISMA 2020 reporting standards.

Table 1: Systematic Literature Search Strategy Breakdown

Component / Parameter	Search Strategy Specifications & Boolean Syntax
Databases Searched	PubMed/MEDLINE, Scopus, PsycINFO (behavioral sciences database), SAGE Journals, Wiley Online Library, Directory of Open Access Journals (DOAJ), and Google Scholar
Publication Date Range	January 1, 2000 – July 31, 2025
Study Eligibility Criteria	Peer-reviewed primary empirical research studies (qualitative, quantitative, and mixed-methods designs)
Search Block 1: Target Population	("HIV-serodiscordant couples" OR "magnetic couples" OR "serodiscordant partners")
Search Block 2: Reproductive Domain	("family planning" OR "safer conception" OR "fertility desire" OR "contraceptive choices" OR "reproductive decision-making")
Search Block 3: Psychosocial Focus	("psychosocial" OR "stigma" OR "intimate partner violence" OR "communication" OR "mental health")
Combined Boolean Logic	(Search Block 1) AND (Search Block 2) AND (Search Block 3)

Search Framework: **Table 2** outlines the PICO search strategy framework utilized across all target databases.

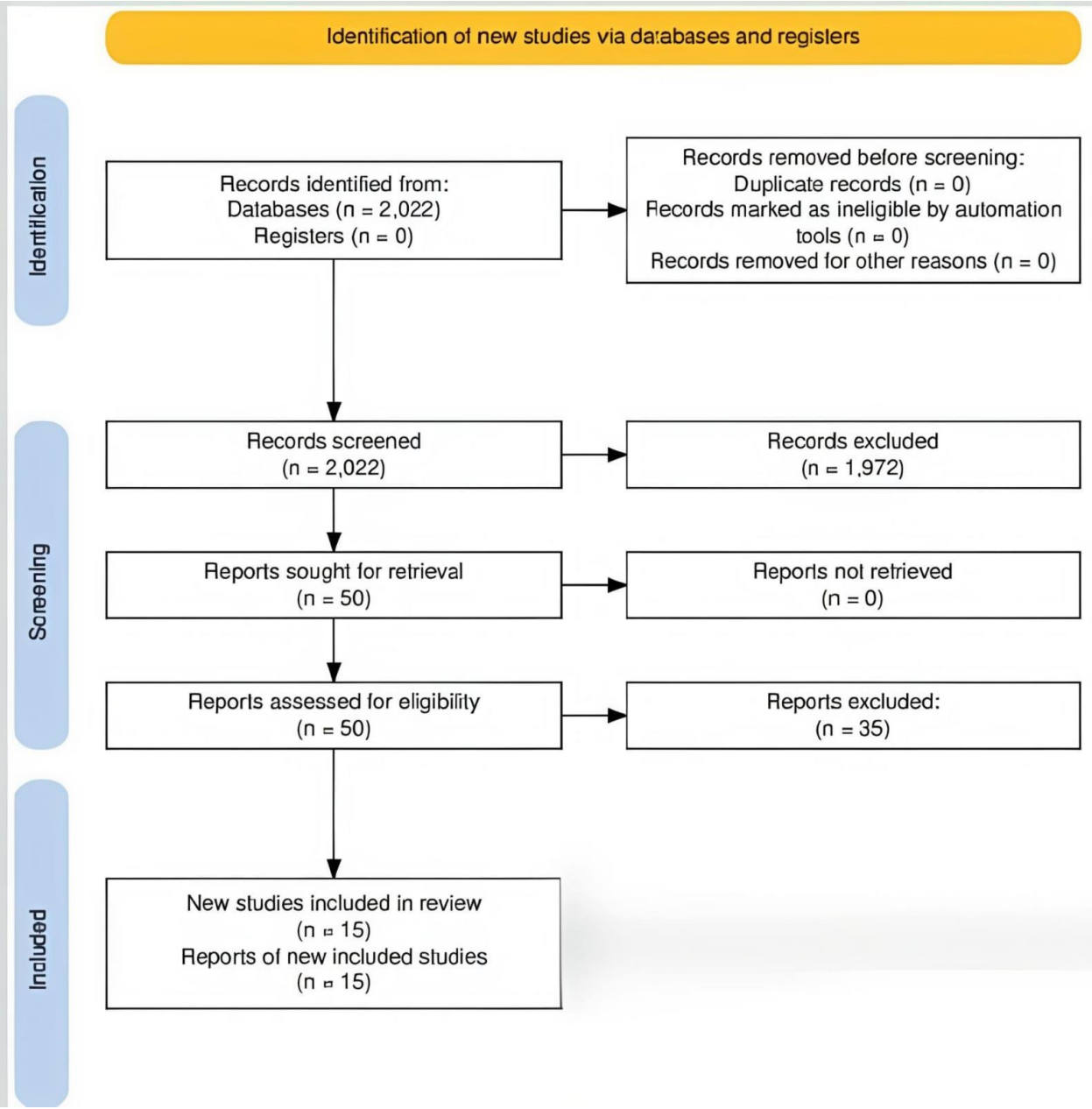
Parameter	PICO Operational Definition
Population (P)	Heterosexual adult HIV-serodiscordant couples (one HIV-positive partner, one HIV-negative partner)
Intervention/Exposure (I)	Psychosocial factors, relational communication, stigma, IPV, healthcare provider interactions, cultural norms
Comparator (C)	Couples without psychosocial barriers, standard individual HIV care, or non-serodiscordant controls

Outcome (O)	Family planning utilization, safer conception uptake, contraceptive choice, fertility desires, reproductive autonomy

Eligibility Criteria: Included studies met the following criteria: (1) primary empirical research (qualitative, quantitative, or mixed-methods); (2) focused explicitly on heterosexual HIV-serodiscordant couples; (3) evaluated psychosocial drivers of family planning, reproductive choices, or safer conception; and (4) published in peer-reviewed English-language journals. Excluded were secondary reviews, editorials, opinion pieces, non-empirical reports, and studies evaluating biomedical clinical trials without psychosocial outcomes.

Study Selection and Quality Appraisal: Two independent reviewers screened titles, abstracts, and full texts. Disagreements were resolved through consensus. Methodological quality was evaluated using an adapted 7-item Centre for Evidence-Based Management (CEBMa) critical appraisal form evaluating research design, sampling validity, measurement reliability, and analytical rigor. Overall quality scores ranged from 5 to 7 out of a maximum 7 points. The uniformly high quality scores reflect our strict multi-stage screening that excluded methodologically weak or non-empirical literature prior to synthesis.

Figure 1: PRISMA 2020 Flow Diagram



Results

Study Characteristics: A total of 15 primary empirical studies published between 2000 and 2025 met all inclusion criteria. Geographically, 12 studies were conducted in Sub-Saharan Africa (Uganda, Kenya, South Africa, Zambia, Nigeria, Rwanda, Mozambique), 2 in the United States, and 1 in Brazil. Methodologically, 9 studies utilized qualitative designs (in-depth interviews, focus group discussions), 5 utilized quantitative cross-sectional or longitudinal cohort designs, and 1 used a mixed-methods approach.

Stratification by Study Design and Quality: Qualitative studies (CEBMa scores 6–7) provided rich granular insights into emotional stress, secrecy, partner trust, and healthcare provider stigma. Quantitative studies (CEBMa scores 5–7, e.g., Kabwama et al.) provided robust national-level prevalence metrics, demonstrating physical IPV rates of 32.1% and sexual IPV rates of 28.3% among serodiscordant cohorts. High-

scoring studies consistently demonstrated that open partner disclosure and joint health-seeking behaviors correlated with significantly higher uptake of safer conception methods.

Quality Appraisal Table: Table 3 presents the itemized methodological quality assessment of all 15 included studies using the 7-item CEBMa criteria.

Study	Design	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Total
Mavhandu-Mudzusi & Sandy (2015)	Qualitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Fonner et al. (2021)	Qualitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Kabwama et al. (2018)	Quantitative	Yes	Yes	Yes	Yes	Yes	Yes	Yes	7/7
Ayele et al. (2020)	Mixed-Methods	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
El-Bassel et al. (2019)	Quantitative	Yes	Yes	Yes	No	Yes	Yes	Yes	6/7
Beyeza-Kashesya et al. (2010)	Qualitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Mindry et al. (2017)	Qualitative	Yes	Yes	Yes	Yes	Yes	Yes	Yes	7/7
Curran et al. (2016)	Qualitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Kawale et al. (2014)	Quantitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Wagner et al. (2016)	Quantitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Santos et al. (2018)	Qualitative	Yes	Yes	No	Yes	Yes	No	Yes	5/7
Guthman et al. (2021)	Qualitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Nakayiwa et al. (2006)	Qualitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
West et al. (2019)	Quantitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7
Human et al. (2022)	Qualitative	Yes	Yes	Yes	Yes	Yes	No	Yes	6/7

Thematic Synthesis Findings

Table 4 Synthesized evidence across all 15 studies revealed seven core psychosocial themes governing family planning and reproductive choices:

Theme	Psychosocial Mechanism / Facilitators & Barriers	Supporting Studies
1. Partner Dynamics & Communication	Open disclosure and mutual trust facilitate joint safer conception planning; fear of abandonment leads to non-disclosure and covert contraception.	Mavhandu-Mudzusi (2015), Curran (2016), Mindry (2017)
2. Healthcare Provider Support	Non-judgmental couples counseling empowers reproductive choices; judgmental provider attitudes regarding HIV/pregnancy impede care seeking.	Fonner (2021), Beyeza-Kashesya (2010), Santos (2018)

3. Stress & Psychological Trauma	Diagnosis of serodiscordance induces acute anxiety and depression, affecting reproductive decision-making capacity and marital stability.	Wagner (2016), Guthman (2021), Mavhandu-Mudzusi (2015)
4. Stigma & Secrecy	Dual HIV and reproductive stigma enforces secrecy, driving couples away from clinical family planning services to avoid social exposure.	Ayele (2020), Nakayiwa (2006), Human (2022)
5. Intimate Partner Violence (IPV)	Physical, emotional, and economic IPV significantly compromises female partner autonomy in negotiating safer conception or condom use.	Kabwama (2018), El-Bassel (2019), West (2019)
6. Legitimate Fertility Desire	Cultural imperatives for lineage continuation and parenthood desires remain primary motivators, often overriding transmission fears.	Kawale (2014), Beyeza-Kashesya (2010), Nakayiwa (2006)
7. Economic Vulnerability	Poverty and economic dependency restrict healthcare access, transportation to ART centers, and nutritional support for safer pregnancy.	West (2019), Human (2022), Ayele (2020)

Table 5: Summary Characteristics of Included Primary Empirical Studies (N=15)

Study & Country	Sample Size	Design	Key Psychosocial Findings	Facilitators / Barriers	CEBMa
Mavhandu-Mudzusi & Sandy (2015) South Africa	N=14 couples (28 ind.)	Qualitative IDIs	Emotional trauma upon serodiscordance diagnosis; secrecy driven by fear of abandonment.	Barrier: Stigma & secrecy	6/7
Fonner et al. (2021) Uganda	N=40 couples	Qualitative IDIs & FGDs	Safer conception decision-making facilitated by non-judgmental provider counseling.	Facilitator: Provider support	6/7
Kabwama et al. (2018) Uganda	N=1,200 couples	Quantitative Cross-sect.	Physical IPV (32.1%) and sexual IPV (28.3%) strongly impaired reproductive choices.	Barrier: IPV	7/7
Ayele et al. (2020) Ethiopia	N=324 survey + 24 IDIs	Mixed-Methods	Stigma and non-disclosure impeded safer conception uptake; mutual counseling improved care.	Facilitator & Barrier	6/7
El-Bassel et al. (2019) USA	N=210 couples	Quantitative RCT cohort	High rates of IPV, substance use, and depression influenced condom negotiation.	Barrier: IPV & Trauma	6/7

Beyeza-Kashesya et al. (2010) Uganda	N=32 ind.	Qualitative IDIs	Fertility desire remained powerful despite HIV diagnosis; provider resistance created barriers.	Facilitator: Fertility desire	6/7
Mindry et al. (2017) South Africa & Uganda	N=60 couples	Qualitative longitudinal	Couples-centered safer conception counseling improved trust and PrEP adherence.	Facilitator: Couples care	7/7
Curran et al. (2016) Kenya & South Africa	N=48 couples	Qualitative IDIs	Integrating PrEP into reproductive care empowered joint decision-making.	Facilitator: PrEP uptake	6/7
Kawale et al. (2014) Malawi	N=450 ind.	Quantitative Cross-sect.	Spousal support and desire for lineage continuation drove reproductive intentions.	Facilitator: Partner trust	6/7
Wagner et al. (2016) Uganda	N=380 couples	Quantitative Cohort	Depressive symptoms reduced contraceptive adherence and open communication.	Barrier: Mental trauma	6/7
Santos et al. (2018) Brazil	N=22 couples	Qualitative IDIs	Communication gap between infectious disease specialists and reproductive health clinics.	Barrier: Provider silos	5/7
Guthman et al. (2021) USA	N=25 couples	Qualitative IDIs	Intersectional stigma (HIV status + socioeconomic hardship) influenced family planning.	Barrier: Dual stigma	6/7
Nakayiwa et al. (2006) Uganda	N=35 couples	Qualitative IDIs	Community expectations for childbearing overrode personal HIV transmission concerns.	Facilitator: Cultural norm	6/7
West et al. (2019) South Africa	N=512 women	Quantitative Cross-sect.	Female economic dependency reduced safer conception negotiation power.	Barrier: Economic vulnerability	6/7
Human et al. (2022) Mozambique	N=30 ind.	Qualitative IDIs	Gender power imbalances and fear of marital dissolution led to covert unassisted conception.	Barrier: Gender imbalance	6/7

Discussion

This systematic review demonstrates that while biomedical interventions (ART, PrEP, TasP) have eliminated clinical transmission risks, psychosocial dynamics dictate whether couples can successfully access and utilize safer conception care. Synthesizing data across 15 studies highlights that reproductive decision-making is fundamentally a relational process embedded within cultural and structural environments.

Contextual Differences Across Settings: Significant regional divergence was observed. In Sub-Saharan Africa (N=12), reproductive choices were heavily constrained by severe community stigma, patriarchal gender norms, fear of viral disclosure leading to marital dissolution, and health system resource

limitations. Conversely, studies from the United States (N=2) highlighted high rates of psychiatric comorbidities and substance use, whereas Brazilian findings (N=1) emphasized communication gaps between HIV specialists and reproductive health practitioners.

Implications for India and South Asia: Although India harbors the world's second-largest population living with HIV (25.61 lakh individuals per NACO 2025 estimates), primary empirical research examining psychosocial family planning dynamics among South Asian HIV-serodiscordant couples remains critically absent. In South Asian patriarchal structures, severe societal pressure for immediate marital childbearing intersects with intense HIV stigma, female economic dependency, and acute fears of family ostracization. Most regional ART centers operate in silos, focusing solely on biomedical viral suppression without offering couples-centered reproductive counseling. There is an urgent imperative for primary empirical studies in India and South Asia to evaluate culturally tailored psychosocial interventions.

Practical Clinical and Policy Implications: Clinical protocols must shift from individual patient models to couples-centered care. Healthcare providers require training to eliminate judgmental biases regarding HIV and pregnancy. Routine screening for intimate partner violence (IPV) must be integrated into family planning clinics, and economic empowerment programs should accompany clinical services to enhance female reproductive autonomy.

Limitations of our study

Several limitations should be considered when interpreting these findings. First, due to substantial methodological heterogeneity across qualitative, quantitative, and mixed-methods study designs, a statistical meta-analysis could not be performed, requiring narrative synthesis. Second, the majority of included studies were concentrated in Sub-Saharan Africa, limiting direct generalizability to low-prevalence Asian and European settings. Third, language restrictions to English-language publications may have omitted relevant studies published in local languages.

Implications for further research

Future research should prioritize: (1) longitudinal cohort studies tracking psychosocial well-being from serodiscordance diagnosis through pregnancy and postpartum periods; (2) implementation science trials testing integrated couples-centered safer conception interventions within primary health centers; and (3) primary empirical research across South Asia (particularly India) to address regional socio-cultural determinants.

Conclusion

Biomedical advancements alone are insufficient to guarantee safe, empowered reproductive choices for HIV-serodiscordant couples. Integrating couples-centered counseling, IPV screening, stigma reduction protocols, and healthcare provider training into routine HIV care is essential. Policy frameworks must expand support in high-burden and emerging regions, particularly South Asia.

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