

Mapping Psychosocial Interventions for Mental Health and Well-Being Among Pregnant Women Living with HIV: A Scoping Review

Witdiawati Witdiawati^{1,2}, Kusman Ibrahim³, Neti Juniarti², Dadang Purnama², Praneed Songwathana⁴

¹Doctoral Program in Medicine, Faculty of Medicine, Universitas Padjadjaran, Sumedang, Jawa Barat, 45363, Indonesia; ²Department of Community Nursing, Faculty of Nursing, Universitas Padjadjaran, Sumedang, Jawa Barat, 45363, Indonesia; ³Department of Medical-Surgical Nursing, Faculty of Nursing, Universitas Padjadjaran, Sumedang, Jawa Barat, 45363, Indonesia; ⁴Research and Innovation Center for Well-Being and Continuing Care, Faculty of Nursing, Prince of Songkla University, Hatyai, Songkhla, Thailand

Correspondence: Witdiawati Witdiawati, Department of Community Nursing, Faculty of Nursing, Universitas Padjadjaran, Sumedang, Jawa Barat, Indonesia, Tel +6282121013946, Email witdiawati14001@unpad.ac.id

Background: Pregnant women living with HIV are at increased risk of depression, anxiety, stigma, gender-based violence, and poor engagement in prevention of mother-to-child transmission services. Psychosocial interventions are increasingly used to complement routine maternal and HIV care, yet evidence remains fragmented across intervention types, settings, and outcomes.

Objective: This scoping review aimed to map psychosocial interventions designed to improve mental health and well-being among pregnant women living with HIV.

Methods: This scoping review followed the Arksey and O'Malley framework, refined by Levac et al, and was reported according to the PRISMA-ScR guideline. PubMed, Scopus, and CINAHL were searched for English-language experimental and quasi-experimental studies published from January 2010 to March 2025. Eligible studies focused on non-pharmacological psychosocial interventions for pregnant or perinatal women living with HIV. Data were extracted using a standardized form and synthesized narratively.

Results: Fourteen studies met the inclusion criteria. Interventions included problem-solving therapy, cognitive-behavioral approaches, peer-mentor and structured support groups, empowerment-based interventions for gender-based violence, community-based counseling, and integrated maternal mental health–parenting programs. Many interventions used task-shifting, peer or lay providers, culturally adapted content, and delivery through clinics, home visits, groups, telephone support, or hybrid formats. Reported benefits included reduced depressive symptoms, improved coping, self-efficacy, disclosure, social support, ART retention, viral suppression, and selected infant growth outcomes. However, findings varied across studies, and some benefits declined over longer follow-up.

Conclusion: Psychosocial interventions show promise for improving mental health, well-being, and HIV care engagement among pregnant women living with HIV. The evidence supports integrating culturally adapted psychosocial support into antenatal and PMTCT services, particularly alongside mental health screening during routine maternal care. Future studies should use stronger designs, longer follow-up, implementation evaluation, and context-sensitive approaches involving partners and families where safe and appropriate.

Keywords: antiretroviral therapy, cultural adaptation, human immunodeficiency virus, pregnant women, psychosocial intervention

Introductions

HIV remains a major global public health concern. According to UNAIDS, an estimated 40.8 million people were living with HIV globally in 2024, including 39.4 million adults and 1.4 million children; women and girls accounted for approximately 53% of all people living with HIV.¹ Despite progress in expanding access to antiretroviral therapy, disparities in HIV control outcomes remain evident across countries and population groups, particularly in low- and middle-income countries.²

Pregnant women living with HIV face intersecting biological, psychological, and social challenges that extend beyond biomedical HIV management. These challenges include maintaining antiretroviral therapy during pregnancy, concerns about vertical transmission, HIV-related stigma, disclosure difficulties, depressive and anxiety symptoms,

limited partner or family support, gender-based violence, and socioeconomic vulnerability. Evidence from low- and middle-income settings further shows that HIV can generate substantial psychological and social consequences for women and their families, including emotional distress, stigma, relationship disruption, and reduced social support.³ These multidimensional challenges highlight the need for psychosocial interventions that address not only mental health symptoms, but also coping, disclosure, safety, social support, and sustained engagement in maternal HIV care.⁴ While programs to prevent mother-to-child transmission of HIV have expanded globally, gaps remain in early diagnosis, continuity of care, and consistent engagement of pregnant women in health services.⁵

Mental health problems are also highly prevalent among pregnant and perinatal women living with HIV. A study among pregnant women living with HIV in Tanzania found that 25.0% screened positive for depression, 23.5% for anxiety, and 17.8% for comorbid depression and anxiety.⁶ Similarly, research among perinatal women living with HIV in Nigeria reported high levels of psychological burden, with 69.0% reporting depressive symptoms, 78.0% reporting perceived stress, and 15.2% experiencing comorbid depression and stress.⁷ Meta-analytic evidence also suggests that women living with HIV have higher odds of antenatal and postnatal depressive symptoms compared with women without HIV, with postnatal depressive symptoms reported in approximately 21% of HIV-positive women.⁸ These findings highlight the urgency of integrating mental health assessment and psychosocial support into routine antenatal, PMTCT, and HIV care services.

Pregnancy is a critical period in the HIV care journey. In addition to the physical and medical demands of pregnancy, pregnant women living with HIV often experience increased psychological stress, such as fear of transmission to the fetus, anxiety about the baby's health, dilemmas related to disclosing HIV status to partners and family, and stigma experienced in social settings and health care facilities.⁹ Several studies have shown that the prevalence of depression and anxiety during the antenatal and postnatal periods is higher in pregnant women living with HIV compared to pregnant women without HIV.^{10,11} This directly impacts maternal well-being, adherence to antiretroviral therapy, and ongoing engagement in services for preventing mother-to-child transmission of HIV.¹²

The success of antiretroviral therapy and services for preventing mother-to-child transmission of HIV is not only determined by the availability of drugs but is also strongly influenced by psychosocial factors. HIV-related stigma, limited social support, gender-based violence, poverty, and unequal power relations within families and communities can hinder access to and continuity of care.¹³ In many contexts, pregnant women living with HIV face multiple stigmas, both as women living with HIV and as pregnant women, which can reduce motivation to access health services and worsen mental health outcomes.¹⁴ Limited integration of mental health services into maternal care and a shortage of trained health workers further exacerbate these challenges, particularly in resource-limited settings.¹⁵

Over the past two decades, various psychosocial interventions have been developed and implemented as adjuncts to antiretroviral therapy to support the mental health and well-being of pregnant women living with HIV. These interventions include individual and group counseling, peer support through maternal mentor programs, problem-solving approaches and cognitive behavioral therapy, community-based interventions, and the use of digital technologies such as mobile-based health services.^{16–18} The primary goals of these interventions are to reduce symptoms of depression and anxiety, increase coping skills and psychological resilience, reduce stigma, and strengthen social support, ultimately leading to increased engagement in health services and adherence to therapy.

Although several literature reviews have addressed psychosocial interventions for people living with HIV in general or mental health interventions in the perinatal period, most have focused on specific clinical or behavioral outcomes, such as treatment adherence or prevention of infant transmission.^{19–21} To date, few reviews have specifically mapped the types, characteristics, and outcomes of psychosocial interventions aimed at improving the mental health and well-being of pregnant women living with HIV. Furthermore, limited geographic focus, varying study designs, and the emergence of new interventions and pilot studies highlight the need for a more comprehensive and up-to-date evidence mapping.

Based on these gaps, a scoping review is needed to systematically map the various psychosocial interventions that have been developed and implemented for pregnant women living with HIV. This review aims to identify the types of interventions, the contexts of implementation, and the reported mental health and well-being outcomes, while also highlighting areas that remain under-researched. The results of this scoping review are expected to provide a strong foundation for future intervention development, research prioritization, and the more comprehensive integration of psychosocial support into maternal HIV care services.

Method

Study Design

This study employed a scoping review design based on the Arksey and O'Malley framework developed in 2005 and further refined by Levac et al^{22,23}. The scoping review approach was chosen because the purpose of this study was to comprehensively map the types, characteristics, and outcomes of psychosocial interventions aimed at improving mental health and well-being in pregnant women living with HIV, and to identify evidence gaps in the existing literature. This approach was deemed most appropriate given the diversity of study designs, intervention types, implementation contexts, and reported outcomes, which precluded meaningful quantitative synthesis through meta-analysis.

The reporting of this review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR). Consistent with the purpose of a scoping review, no formal study-level methodological quality appraisal or risk-of-bias assessment was conducted, because the aim was to map the scope, characteristics, and outcomes of the available evidence rather than to estimate intervention effectiveness. The review process involved five stages: identifying the research question, identifying relevant studies, selecting eligible studies, charting the data, and collating, summarizing, and reporting the results narratively.

Search Strategy and Eligibility Criteria

A systematic literature search was conducted in PubMed, Scopus, and CINAHL, with the final search completed on March 31, 2025. These databases were selected because of their relevance to public health, nursing, maternal health, HIV care, and mental health intervention research. All retrieved records were imported into Rayyan for reference management, duplicate removal, and screening.

The search strategy was developed by combining keywords and Medical Subject Headings terms using Boolean operators. To maximize search sensitivity and minimize missing relevant articles, a two-tier strategy was used. The first tier encompassed the key concepts of HIV, pregnancy, and intervention, while the second tier encompassed psychosocial and mental health concepts, applied more flexibly to title, abstract, and full-text screening. Keywords included HIV (human immunodeficiency virus) combined with the terms pregnant women, pregnancy, antenatal, or perinatal, and psychosocial intervention, counseling, peer support, mental health, well-being, depression, or anxiety. Study design filters were not strictly applied during the search to avoid missing studies with variable design labeling.

Two researchers independently screened titles and abstracts, followed by full-text review of articles meeting the initial criteria. Disagreements were resolved through discussion and, if necessary, the involvement of a third researcher. A PRISMA flowchart was used to illustrate the study selection process and the reasons for exclusion during the full-text review stage.

Inclusion and Exclusion Criteria

Study eligibility criteria were established based on the Population Concept Context framework. The population in this review was pregnant women living with HIV, both in the antenatal and perinatal periods, without restrictions on age or geographic location. The concept examined was psychosocial interventions, defined as non-pharmacological interventions aimed at improving mental health and well-being, including individual or group counseling, peer support, cognitive-behavioral approaches, problem-solving, community-based interventions, and technology-based interventions with a psychosocial component. Contexts included health services, antenatal facilities, communities, or a combination of both in various countries.

Eligible studies were original experimental or quasi-experimental studies, including randomized controlled trials, cluster randomized trials, pilot randomized trials, and quasi-experimental studies, published in English between January 1, 2010, and March 31, 2025. Studies were included if they involved pregnant or perinatal women living with HIV and evaluated a non-pharmacological psychosocial intervention targeting mental health, well-being, coping, social support, stigma, or related maternal and HIV care outcomes.

Exclusion criteria included studies that focused solely on pharmacological interventions without a psychosocial component, articles that were editorials, commentaries, literature reviews, conference reports, or abstracts only, and studies with populations that did not specifically include pregnant women living with HIV.

Data Extraction

Data extraction was conducted using a previously developed and piloted standardized form. Extracted data included citation information, year and country of publication, study design, population characteristics and sample size, a description of the intervention including its theoretical basis, key components, delivery method, duration and intensity of the intervention, intervention provider, implementation context, comparison group, if available, and reported mental health and well-being outcomes and timing of measurement. Additionally, information related to implementation aspects such as acceptability, feasibility, and participant engagement was recorded where available.

Two researchers performed data extraction independently, with an initial calibration process on a small subset of articles to ensure consistency. Discrepancies were resolved through joint discussion and clarification.

Data Synthesis

Data synthesis was conducted descriptively and thematically using a reflexive thematic analysis approach. Extracted data were analyzed through a process of familiarization, initial coding, grouping codes into subthemes, and mapping them into main themes representing the types and characteristics of psychosocial interventions. Results are presented as a structured narrative synthesis, grouping studies by intervention type, implementation context, delivery approach, and mental health and well-being outcome domains. This approach allows for a comprehensive mapping of the existing intervention landscape and identification of areas with limited research evidence.

Results

Study Selection

A systematic search of PubMed, Scopus, and CINAHL identified 1000 records. After removing 184 duplicate records, 816 unique records remained. These 816 records were then assessed against the predefined inclusion criteria at the database level, focusing on population, concept, context, study design, publication year, and language. At this stage, 704 records were excluded because they did not involve pregnant women living with HIV, did not include a psychosocial intervention component, or were not primary empirical research. A total of 112 records proceeded to the title and abstract screening stage.

Titles and abstracts of these 112 records were screened for relevance to psychosocial interventions targeting mental health and well-being among pregnant women living with HIV. 88 records were excluded because they did not focus on the target population, did not evaluate a psychosocial intervention, or did not report mental health or related well-being outcomes. The remaining 24 articles were retrieved for full text review. During the full text assessment, the same inclusion criteria were applied in detail, with additional checks on intervention content, outcome reporting, and methodological clarity. 10 articles were excluded because they did not specifically target pregnant women living with HIV, did not include a psychosocial component, or did not provide sufficient information on mental health or well-being outcomes. Ultimately, 14 studies met all inclusion criteria and were included in this scoping review. The study selection process is summarized in the PRISMA flow diagram ([Figure 1](#)), and the main characteristics of the included studies are presented in [Table 1](#).

This review identified 14 studies that implemented a range of psychosocial approaches to address specific challenges faced by pregnant women living with HIV (WLHIV), particularly related to adherence to antiretroviral therapy (ART), addressing HIV stigma, improving quality of life, and improving mental health outcomes such as perinatal depression and anxiety. These interventions were also specifically designed to improve other outcomes important to the well-being of WLHIV, including increasing disclosure of HIV status to partners, reducing the risk of gender-based violence (GBV), and optimizing the cognitive and physical development of children exposed to HIV.

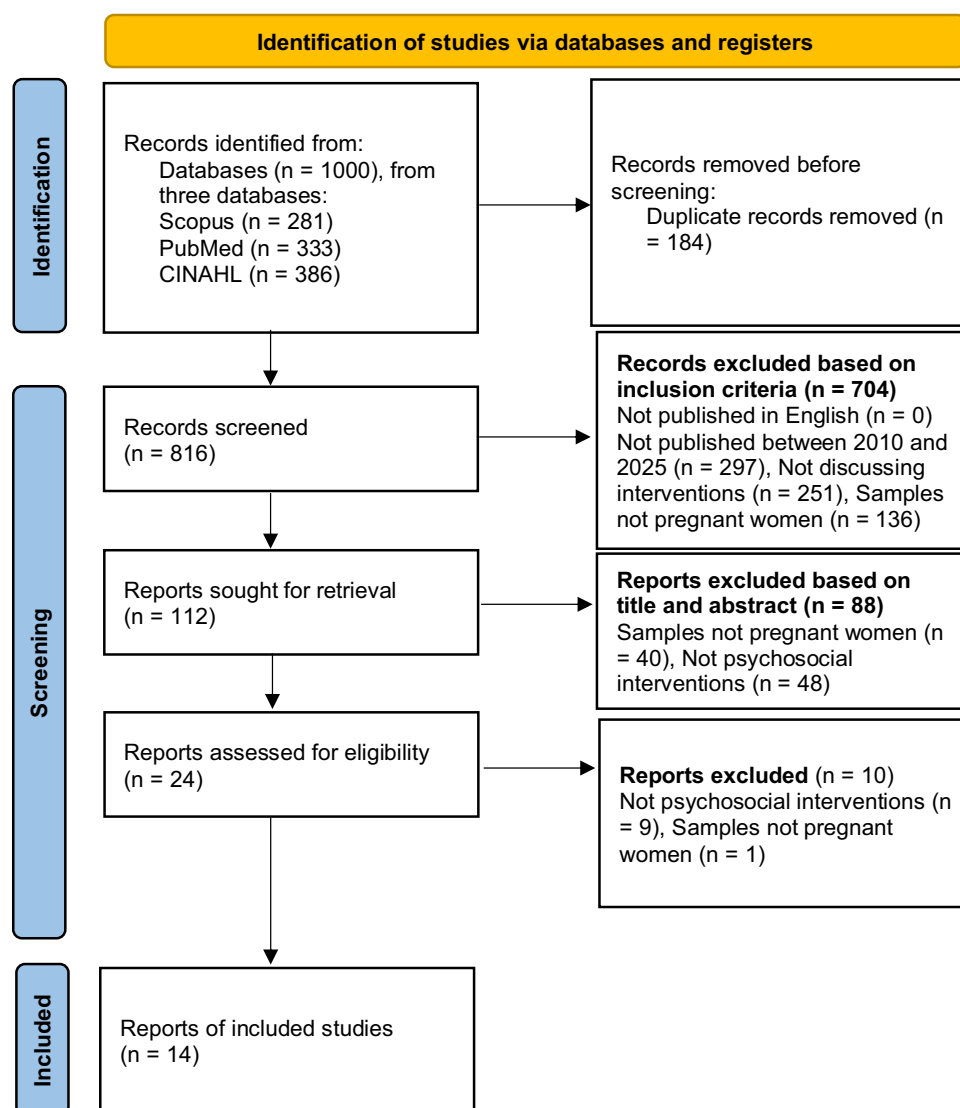


Figure 1 PRISMA Flow Diagram.²⁴

The study designs varied, ranging from randomized controlled trials (RCTs), pilot studies, quasi-experimental studies, to study protocols conducted in various geographic contexts. Most studies have focused on high-HIV burden regions in Africa (Malawi, South Africa, Tanzania, and Kenya), but this mapping also includes studies from Asia (Indonesia) and Europe (the Netherlands) to provide a global picture of the integration of psychosocial support into comprehensive maternal HIV care services.^{27,28,31–33,35}

These interventions were delivered by a variety of service providers, including peer mentors, lay health workers, midwives, psychiatric nurses, and professional psychologists.^{26,30} Many programs integrated digital tools, such as telephone counseling sessions, the use of electronic tablets for session guidance, and educational videos to support decision-making.^{25,32} Overall, seven principles of contextual adaptation emerged as recurring themes, including the implementation of task-shifting strategies, local language adaptations, the use of a strengths-based approach, and the integration of psychosocial support directly into routine maternal health and PMTCT services to ensure relevant and meaningful services for pregnant women living with HIV.^{33,34,36,38}

Table I Data Extraction

Authors, Year	Purpose	Design	Samples	Interventions	Key Results
(Bengtson et al, 2023) ²⁵	To evaluate the feasibility, acceptability, fidelity, and initial efficacy of the Enhanced Friendship Bench (EFB) intervention to improve perinatal depression (PND) and HIV care engagement.	Pilot Randomized Controlled Trial (RCT).	80 pregnant women with HIV (WLHIV) who were detected with depressive symptoms (SRQ score 8) in Malawi; mean age 28 years.	EFB Intervention Problem-Solving Therapy (PTS) is delivered over the phone by trained counselors (lay health workers). It consists of six individual sessions (four prenatal and two postnatal) of 30–45 minutes each in Chichewa. Activities include identifying problems, brainstorming solutions, and developing an action plan. This includes social support sessions with a trusted person and biweekly phone check-ins.	The intervention satisfaction rate was 100%. At 6 months postpartum, depression remission was higher in the intervention group (59% vs. 36%, RD 23%, 95% CI 2%, 45%). HIV care retention (82% vs. 69%) and viral suppression (96% vs. 90%) also improved.
(Rochat et al, 2021) ²⁶	Evaluating the effects of a home-based intervention combining psychological treatment of depression with a parenting program.	Cluster Randomized Controlled Trial (Protocol).	Target 528 pregnant women with HIV (age 16 years) with EPDS score 9 in KwaZulu-Natal, South Africa.	Insika Yomama: Combines Behavioral Activation (BA) for depression and the WHO/UNICEF Care for Child Development (CCD) package. Delivered in 10 home counseling sessions by lay counselors (4 prenatal, 6 postnatal) plus 1 booster session at 16 months. Activities: Session 1 focuses on BA orientation; subsequent sessions combine BA modules (self-care, routines) and parenting components (responding to infant cues, early stimulation) using an electronic tablet.	(Outcomes have not been fully reported in the protocol, but focus on improvements in maternal depression at 12 months and child cognitive development at 24 months).
(Rotheram-Borus et al, 2011) ²⁷	Evaluating a clinic-based strategy using peer mentors to increase PMTCT uptake and maternal health behaviors.	Cluster Randomized Controlled Trial (Protocol).	1200 pregnant women with HIV (age 18 years) in 8 rural South African clinics.	Masihambisane Project: 8 small group sessions (4 prenatal, 4 postnatal) led by Peer Mentors (mothers living with HIV who have successfully undergone PMTCT). Sessions last 60–90 minutes in the clinic. Activities: Prayer/singing, sharing successes, topic discussions (Positive Living, Infant Health, Childbirth Preparation, Breastfeeding), role-playing, and weekly goal setting.	(The protocol predicts improvements in mental health, social support, and coping skills with HIV stigma).

(Nasution & Erniyati, 2018) ²⁸	Analyzing the influence of community involvement interventions on the pregnancy health status of HIV/AIDS patients.	Quasi-experiment with pretest-posttest design.	39 pregnant women with HIV in Medan, Indonesia; the majority aged >35 years.	Community Role Intervention: Counseling on maternal HIV health care delivered by the community and health cadres. Conducted in two stages: the formation of a community team of health professionals and counseling using leaflets and posters for 6 months. Activities: Education on danger signs of pregnancy, childbirth, postpartum, and infant care.	Significant improvement in maternal knowledge and attitudes ($p < 0.05$). The intervention impacted high-risk detection, ANC implementation ($p=0.006$), and selection of birth attendants ($p=0.007$).
(Mutisya et al, 2018) ²⁹	Assessing the effects of psychosocial interventions on gender-based violence (GBV) and antepartum depressive symptoms.	Quasi-experimental study.	288 pregnant women (aged 18–45 years) in Kisumu County, Kenya (144 intervention, 144 control).	Psychosocial Intervention: Based on Dutton's empowerment model. Conducted by trained research assistants with a social work background. Consisting of a minimum of three 30–35 minute support sessions over 4–5 months. Activities: Providing GBV information, empathetic listening, validating feelings, assessing safety, and referring to specialist services.	The intervention group had a significantly lower mean depression score than the control group (5.34 vs. 12.46, $p < 0.001$) with a medium effect size (0.500). It also reduced scores for physical violence from a partner.
(Kaaya et al, 2013) ³⁰	Assessing the effectiveness of group counseling with a problem-solving therapy approach on depressive symptoms and levels of HIV status disclosure.	Randomized Controlled Trial (RCT).	331 HIV+ pregnant women (analytic: 188) in Tanzania; mean age 26 years.	Interactive Group Counseling: Uses the Problem-Solving Therapy (PST) framework. Led by a trained psychiatric nurse/social worker. Consists of 6 weekly group sessions (group size 6–8 people). Activities: Discussion of the challenges of living with HIV, disclosure to partners, prevention of transmission (MTCT), safe sex, breathing/relaxation exercises, and sharing of anxiety-reduction strategies.	60% of the intervention group experienced post-intervention depression vs. 73% of controls (RR 0.82, $p=0.066$; marginal decrease). The intervention group had significantly higher satisfaction with status disclosure (88% vs. 62%, $p=0.004$).

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Table I (Continued).

Authors, Year	Purpose	Design	Samples	Interventions	Key Results
(Burger et al, 2020) ³¹	Assessing the effectiveness of prenatally initiated Cognitive Behavioral Therapy (CBT) on mothers and children.	Randomized Controlled Trial (RCT).	282 pregnant women with symptoms of depression/ anxiety (EPDS score 12/ STAI 42) in the Netherlands.	Cognitive Behavioral Therapy (CBT): Provided by a licensed psychologist. Consists of 10–14 individual sessions (6–10 sessions during pregnancy) from 20 weeks gestation to 3 months postpartum. Activities: Optional modules for anxiety, depression (behavioral activation), or trauma (exposure/ imagination). Focus on identifying and changing dysfunctional cognitions/beliefs related to pregnancy.	No significant beneficial effects were found on maternal symptoms or child development ($p=0.399$). Surprisingly, anxiety and depression symptoms were slightly higher in the CBT group midway through pregnancy ($p<0.05$).
(Maman et al, 2014) ³²	Evaluating the effectiveness of an enhanced HIV counseling intervention on condom use and STI incidence.	Randomized Controlled Trial (RCT).	1480 pregnant women (571 HIV+, 909 HIV-) in Durban, South Africa; mean age 25.5 years.	Enhanced Counseling: Provided by trained nurse-midwives. Conducted at the first prenatal visit, and at 6 and 10 weeks postpartum. Activities: Watch a 15-minute video about HIV testing decisions, pre-test counseling (risk assessment), personalized post-test counseling (focusing on disclosure and social support for HIV+ individuals), role-playing, and access to legal aid.	There was no effect on STI incidence. The intervention was associated with a 28% reduction in the risk of inconsistent condom use at month 9 among HIV-positive women (aRR 0.72). There was no significant effect on condom use in the HIV-positive group.
(Lyatuu et al, 2022) ³³	Evaluating the effect of an interactive mother-peer program on PMTCT outcomes (ART retention and viral suppression).	Cluster Randomized Implementation Study.	3341 pregnant women with HIV (1957 intervention, 1384 control) in Tanzania; median age 30 years.	Peer-mother Interactive Program: Based on the NAMWEZA (conversations appreciative) approach. Delivered by 92 trained peer-mothers (HIV+ mothers with experience on ART). Conducted at least 2–3 days per week at the PMTCT clinic. Activities: Individual dialogues for status acceptance, overcoming stigma, building self-esteem, preparing for disclosure to partners, supporting ART adherence, and establishing peer support groups.	The intervention group had a significantly lower ART attrition rate (14 vs. 18 per 1,000 person-months, $p < 0.05$). Viral suppression was significantly higher in the newly diagnosed (ART-naïve) group of mothers (91% vs. 88%, $p=0.032$).

(Psaros et al, 2023) ³⁴	Evaluating the feasibility, acceptability, and initial effects of a psychosocial depression intervention and ART adherence.	Pilot Randomized Controlled Trial (RCT).	23 pregnant women with HIV and MDD in KwaZulu-Natal, South Africa; median age 24 years.	Psychosocial Interventions for Depression & Adherence: Based on Problem-Solving Therapy and LifeSteps adherence intervention. Delivered by trained lay counselors. Consisting of 8 individual sessions (average frequency every 2 weeks). Activities: Depression/PMTCT education, ART reminder strategy planning, managing side effects, problem-solving related to stigma and social support, and postpartum contraception education.	Intervention participants showed significantly greater improvement in depressive symptoms post-treatment (beta = -11.1, $p < 0.005$) and at 3 months (beta = -13.8, $p < 0.005$). No significant differences were found in ART adherence (MEMS) or social support.
(Mundell et al, 2011) ³⁵	Evaluating a structured psychosocial support group intervention for HIV disclosure, self-esteem, and coping.	Quasi-experimental design.	361 HIV+ pregnant women in Tshwane, South Africa; mean age 27 years.	Structured Support Groups: Based on Action Research and Systems Theory. Facilitated by a Master's psychology student and an HIV+ mother (co-facilitator). Consists of 10 weekly sessions. Activities: Sessions on HIV awareness, emotional impact, disclosure, coping in intimate relationships, stress management, human rights, and future life planning through games, role-playing, and storytelling.	The rate of disclosure in the intervention group was significantly higher at both follow-ups (94% vs. 78% and 97% vs. 82%, $p < 0.001$). The intervention group had higher levels of active coping ($t=2.68$, $p < 0.05$) and lower levels of avoidant coping ($t=-2.02$, $p < 0.05$) at 2 months postpartum.
(Kaaya et al, 2022) ³⁶	To determine whether stepped-care interventions by lay providers can improve postpartum mental health outcomes.	Cluster Randomized Controlled Trial (RCT).	742 HIV+ pregnant women with depression (PHQ-9 score ≥ 9) in Dar es Salaam; mean age 29.8 years.	Healthy Options: Stepped-care intervention. Facilitated by 22 trained Community-Based Health Workers (CBHWs). Activities: All received 7 prenatal PST (Problem-Solving Therapy) sessions in groups (15–20 people) to build assertiveness and goal setting. Participants who remained depressed at 6 weeks postpartum received 8 additional Cognitive Behavioral Therapy (CBT) group sessions (8–10 people) focusing on negative thought patterns and parenting.	At 6 weeks postpartum, the intervention showed a 67% reduction in the likelihood of depressive symptoms (RR 0.33, 95% CI 0.22–0.51, $p < 0.001$). However, at 9 months postpartum (the primary outcome), the reduction in depression was not significant (RR 0.74, $p = 0.281$). There was a significant reduction in HIV stigma scores ($p = 0.012$).

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Table 1 (Continued).

Authors, Year	Purpose	Design	Samples	Interventions	Key Results
(Richter et al, 2014) ³⁷	Evaluating the impact of peer mentoring programs on maternal and infant well-being at 1.5 months postpartum.	Cluster Randomized Controlled Trial (RCT).	1200 HIV+ pregnant women (843 analyzed postnatally) in rural KwaZulu-Natal; mean age 26.5 years.	Enhanced Intervention (EI): Adapted peer mentoring (M2M) model. Facilitated by a Peer Mentor (experienced WLH). Consisting of 4 prenatal and 4 postnatal sessions in small groups. Activities: HIV destigmatization, PMTCT task compliance, exclusive breastfeeding, obtaining child social assistance, disclosing status to partner, and routine condom use.	Demonstrating significant overall benefits across 16 measures of well-being ($p=0.028$). Mothers in the EI group were 1.84 times more likely to have their partners tested for HIV ($p=0.014$) and had a lower risk of depressed mood (OR 2.55, $p=0.003$).
(Smith Fawzi et al, 2020) ³⁸	Presents the protocol and basic characteristics of the “Healthy Options” study to treat depression in WLHIV.	Cluster Randomized Controlled Trial (Protocol/ Baseline).	742 HIV+ pregnant women with depression (PHQ-9 score ≥ 9) in Dar es Salaam; mean age 29.8 years.	Healthy Options: Combining PST and CBT in a stepped care model. Facilitated by trained Lay CBHWs. Activities: Prenatal PST sessions (6 sessions + 1 orientation) group sessions focusing on self-awareness and assertive communication. Postnatal CBT sessions (8 sessions) group sessions for those who remain depressed, focusing on the mind-feeling connection and practical skills for caring for the baby.	Baseline characteristics indicate a highly vulnerable population: 45% experienced low food security, 17% experienced intimate partner violence in the past 6 months, and the average social support score was 3 (“less than desired”).

Characteristics and Types of Psychosocial Interventions

Psychosocial interventions for pregnant women with HIV (WLHIV) vary widely, but most focus on combining emotional support with practical strategies for HIV management:

Cognitive and Behavioral Therapy: The dominant approach is Problem-Solving Therapy (PST), which aims to help mothers identify life obstacles and address them in a structured manner,^{25,30} 2022;³⁴ Additionally, Behavioral Activation is used to help mothers return to positive activities to combat depressive symptoms,²⁶ while Cognitive Behavioral Therapy (CBT) is used to address negative thought patterns related to an HIV diagnosis.^{31,36}

Peer Mentorship: This intervention model uses experienced mothers with HIV (Peer Mentors) as role models to provide education, psychosocial support, and motivation in PMTCT care.^{27,33,37}

Integrated Parenting Interventions: Some programs go beyond maternal mental health by integrating parenting packages such as Care for Child Development (CCD) to enhance infant cognitive development.²⁶

Adherence and Empowerment Support: Interventions such as the LifeSteps model focus on solving practical problems in ART adherence,³⁴ while the Dutton empowerment model is used to protect mothers from gender-based violence (GBV).²⁹ In Indonesia, community involvement and health cadres are key in providing educational counseling for pregnant women with HIV.²⁸

Implementation Context and Delivery Strategy

The context of implementation is crucial for the reach and sustainability of interventions in resource-constrained areas:

Task-Shifting Strategy: Most interventions use lay health workers or community volunteers trained and supervised by professionals to cover the shortage of mental health professionals.^{25,26,34,36,38}

Location and Format: Interventions were delivered both individually through home visits to minimize transportation barriers²⁶ and in groups at PMTCT clinics to build social support networks.^{30,35,37}

Utilization of Technology: The use of telephones for counseling sessions²⁵ and the use of educational videos³² are important innovations to increase service flexibility, especially during the pandemic.

Mental Health and Well-Being Outcomes

Reported outcomes range from psychological improvements to better clinical outcomes for both mother and child:

Reduction of Depressive Symptoms: The majority of studies reported significant reductions in perinatal depression scores and higher remission rates in the intervention group.^{25,29,34,36,37}

Increased Disclosure: Psychosocial interventions have been shown to increase mothers' courage to disclose their HIV status to their partners and increase their satisfaction with the process.^{30,35,37}

Engagement in HIV Care: Improved mental health is correlated with better retention in HIV care, increased ART adherence, and viral suppression.^{25,33}

Child Well-being: Several outcomes show a reduced risk of infants experiencing stunting or delayed height growth.³⁷

Research Gaps and Long-Term Challenges

While initial results are promising, there are several areas that still require attention:

Long-Term Sustainability of Effects: Some interventions show decreased efficacy after the 9-month postpartum period, indicating the need for continued support beyond the postpartum period.^{35,36}

Disadvantages for Specific Groups: Interventions may be less effective for mothers who do not actively seek help (non-help seeking) or for those who face severe structural barriers such as extreme poverty and hunger.^{31,38}

Male Partner Involvement: Very few interventions actively integrate the role of male partners, despite the crucial role of partner support for maternal well-being.^{25,32,38}

Discussions

This scoping review mapped empirical evidence on psychosocial interventions that support the mental health and well-being of pregnant women living with HIV. Across fourteen studies, the interventions covered a wide range of approaches,

including cognitive and behavioral therapies, peer and group based support, community engagement, and programs that combine maternal mental health with parenting support. Overall, the findings indicate that these interventions are acceptable and feasible when they are aligned with the social, cultural, and linguistic context of women and when they are connected to routine maternal and HIV care services. Psychosocial care appears to function as an essential component of comprehensive PMTCT and ART services rather than an optional addition.

A central message from this review is the importance of contextual and cultural adaptation. Many programs adjusted content, delivery style, and key messages to the daily realities of pregnant women living with HIV. When counseling methods and behavioral strategies were expressed in familiar language and linked to recognizable challenges in pregnancy, relationships, and clinic attendance, participants perceived the interventions as relevant and respectful.³² This recognition can reduce psychological distance between formal services and everyday life and helps explain the high levels of participation and satisfaction reported in several trials.³⁹ In this sense, acceptability and perceived relevance may represent an early stage in the pathway toward sustained behavioral and emotional change, even if they do not always lead directly to strong clinical effects.⁴⁰

Peer based and lay provider models were another consistent feature in the evidence base. Interventions that relied on peer mentors, community based health workers, or other non specialist providers made it possible to deliver structured psychosocial support in settings where professional mental health staff are scarce.³³ At the same time, the shared experience and social proximity between providers and participants appeared to build trust, reduce fear of judgment, and normalize living with HIV during pregnancy. These observations are consistent with theories that emphasize the role of shared identity and credible role models in behavior change.³⁷ Task shifting therefore provided not only a practical workforce solution but also a relational mechanism that likely contributed to the positive outcomes observed in many studies.²⁷

The setting and format of delivery also played an important role. Group based interventions in antenatal and PMTCT clinics allowed women to share experiences, develop mutual support, and practice coping skills in a collective space. Home based models brought support for depression and parenting directly into the household, reduced barriers related to transport and childcare, and allowed intervention providers to observe family dynamics and caregiving practices more closely.²⁷ These approaches respond to earlier concerns that formal facilities can be experienced as intimidating or stigmatizing by women who anticipate blame related to HIV, poverty, or relationship problems.¹⁵ Community based and hybrid models instead reposition psychosocial care inside environments that feel safer and more familiar, which seems to be a prerequisite for meaningful engagement in mental health work.⁴¹

Many interventions in this review aimed not only to reduce symptoms of depression and anxiety but also to strengthen resilience. Programs frequently targeted active coping, self efficacy, hope, and a sense of control over everyday stressors. Combined models that integrated treatment for maternal depression with parenting support reflected a life course perspective in which the well being of mothers is closely linked to the development of their children.²⁶ By supporting emotional regulation, caregiving confidence, and sensitive parenting, these integrated interventions have the potential to influence both maternal and child outcomes.⁴² This aligns with broader resilience literature that points to the value of strategies which address individual, family, and caregiving systems at the same time.

The child well-being outcomes identified in this review should be interpreted as potentially indirect effects of psychosocial interventions rather than as isolated child-focused outcomes. Improvements in maternal mental health may reduce psychological distress, emotional withdrawal, and caregiving difficulties, thereby enabling mothers to provide more responsive and consistent care.⁴³ Reduced stress and depressive symptoms may also improve maternal capacity to attend antenatal and postnatal visits, adhere to ART, engage with PMTCT services, follow infant feeding guidance, and participate in growth monitoring.⁴⁴ In this way, psychosocial interventions may support infant growth and development through multiple pathways, including improved maternal health behaviors, better nutrition-related practices, safer breastfeeding decisions, stronger maternal–child interaction, and greater use of maternal and child health services.⁴⁵ Therefore, the observed reductions in risks of stunting or delayed height growth in some studies are likely to reflect the combined influence of improved maternal psychological functioning, strengthened social support, better HIV care engagement, and enhanced caregiving quality.

At the same time, several studies illustrate that psychosocial interventions cannot be separated from structural conditions. Baseline data across trials point to high levels of food insecurity, intimate partner violence, and limited social support among pregnant women living with HIV.⁴⁶ Interventions that explicitly addressed safety, gender based violence, and access to social and legal resources reported improvements in both mental health and exposure to violence. These findings support the view that depression and distress among pregnant women living with HIV are often rooted in intersecting vulnerabilities related to poverty, unsafe relationships, and weak social protection.¹⁵ Psychosocial support is likely to be more effective and sustainable when it is linked with efforts to stabilize these structural conditions, rather than focusing only on individual thoughts and emotions.⁴⁷

Evidence on clinical and behavioral outcomes is encouraging but not uniform. Several studies demonstrated reductions in perinatal depression, improved remission rates, lower HIV related stigma, and better coping among women who received psychosocial interventions.⁴⁷ Some trials also documented gains in HIV care engagement, including higher retention in ART and higher rates of viral suppression, and in a few cases better indicators of infant growth.⁴⁸ Other studies, however, found limited or no added benefit of intensive psychotherapy over usual care, or documented early improvements that diminished over longer follow up.^{49,50} These mixed findings suggest that the effects of psychosocial interventions depend on timing, intensity, fit with the local health system, and the degree to which they are supported by wider family and community resources. Psychosocial programs appear to create important opportunities for improvement, but they are not a guarantee of clinical change in all contexts.⁵¹ These findings indicate that psychosocial interventions should be understood not only as mental health support, but also as a potentially important strategy for improving maternal clinical outcomes, continuity of HIV care, and early child growth and development.

Digital components appeared in a modest but informative way. Telephone based counseling and follow up contacts were used to maintain continuity, reinforce skills, and reduce the practical burden of attending repeated clinic sessions. Educational videos were used within antenatal visits to support discussion and decision making.⁵² These experiences suggest that digital tools can extend the reach and flexibility of psychosocial care for pregnant women living with HIV.⁵³ At the same time, they remain embedded in relationships between women and providers and do not replace the need for interpersonal connection.⁵⁴ Digital strategies that are integrated into existing care and grounded in trust are likely to be more effective than purely informational approaches that rely on technology alone.⁴⁹

A clear gap in the evidence relates to partners and family systems. Although many studies touched on disclosure and encouraged women to involve partners in testing or care, very few interventions were explicitly designed around couple or family processes. Yet the studies in this review repeatedly show that partner support, or its absence, is closely related to depressive symptoms, adherence to ART, and key PMTCT behaviors. Limited partner involvement may reflect clinic routines that are oriented toward women, gender norms that discourage male participation, and fears related to blame or violence. Future intervention development may need to pay greater attention to safe and contextually appropriate ways to involve partners and family members, while still centering the autonomy and safety of pregnant women.

Limits and Future Directions

This scoping review was designed to map the breadth of existing evidence rather than to provide definitive estimates of intervention effectiveness, and several limitations must be considered. Following guidance for scoping reviews, we did not conduct formal appraisal of study quality or risk of bias, so the certainty of the available evidence cannot be established. The interventions, comparison conditions, outcome measures, and follow up periods showed considerable diversity, which made quantitative synthesis impractical and means that our conclusions are necessarily descriptive and thematic. The search strategy focused on three large databases and on articles published in English. Studies published in other languages, in regional journals, or in the grey literature may have been missed despite a sensitive and iterative search approach.

In addition, a number of included records were protocols or baseline reports without outcomes, and many completed interventions were evaluated only over short follow up periods, usually confined to pregnancy and the early postpartum period. Most studies were conducted in countries in sub Saharan Africa, with relatively few from other high burden settings in Asia or Latin America. This geographic concentration may limit the generalizability of findings to different health system and cultural environments. The body of evidence itself is mixed, with some interventions demonstrating

clear psychosocial and clinical gains and others reporting small or absent effects. Important contextual factors, including food security, household income, exposure to violence, and characteristics of the health system, were not measured consistently and therefore could not be fully considered in this synthesis.

Future research should therefore prioritize adequately powered randomized and quasi experimental designs that include longer follow up and are implemented across a wider range of settings. Studies that directly compare adapted and non adapted versions of interventions would help clarify the specific contribution of contextual and cultural tailoring for pregnant women living with HIV. It will also be important to design and test interventions that engage partners and families where this is safe and appropriate, integrate responses to gender based violence and economic insecurity, and make thoughtful use of digital tools while maintaining a strong relational foundation. Finally, embedding implementation and economic evaluations within psychosocial intervention trials will be essential to identify models that are not only effective but also feasible, scalable, and sustainable within routine maternal and HIV care systems.

Conclusions

This scoping review shows that psychosocial interventions for pregnant women living with HIV can improve mental health, coping, and engagement in HIV care. The mapped studies include problem-solving and cognitive-behavioral approaches, peer mentor and group support models, community and home-based programs, and integrated packages that combine maternal mental health with parenting and adherence support. Across diverse settings, these interventions are generally feasible and acceptable when delivered by trained lay workers or peer mentors, embedded in antenatal and PMTCT services, and responsive to the everyday challenges of pregnancy, HIV, stigma, and caregiving. Many studies reported reductions in perinatal depressive symptoms, better coping and disclosure, and improvements in retention in care, viral suppression, and selected infant growth outcomes, although some trials showed mixed or limited effects and benefits that decreased at later follow-up. Overall, the evidence points to a promising but still developing field.

For policy and practice, these findings support the integration of structured mental health screening and psychosocial support into routine antenatal, PMTCT, and maternal HIV services. This is consistent with WHO's direction to integrate perinatal mental health into maternal and child health services and to strengthen early identification and management of maternal mental health problems during pregnancy and after childbirth. Psychosocial interventions should therefore be positioned not only as supportive care, but also as part of comprehensive maternal HIV services that address depression, anxiety, stigma, safety, ART adherence, caregiving demands, and continuity of care. Future research should use stronger and adequately powered designs, extend follow-up beyond the early postpartum period, explore safe involvement of partners and families, and incorporate implementation and economic evaluations. This will be essential to inform scalable and sustainable psychosocial models that fit the realities of pregnant women living with HIV in different health system contexts.

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