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Coverage and Determinants of the Continuum of Care for the Prevention of Mother-to-Child Transmission of HIV in Sub-Saharan Africa: A Scoping Literature Review, 2025

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Abstract

Background: The human immunodeficiency virus (HIV) remains a major public health threat in sub-Saharan Africa (SSA), where prevention of mother-to-child transmission (PMTCT) is a cornerstone of the epidemic response. This scoping review aimed to examine coverage levels of PMTCT services and to identify factors influencing their utilization, whether facilitating or hindering. **Methods**: The review included cross-sectional, qualitative, and mixed-methods studies addressing PMTCT coverage and determinants of service utilization in SSA. A descriptive synthesis was conducted to summarize publication characteristics, assess screening and treatment coverage, and highlight the reported determinants. **Results**: Findings revealed that in several countries (Chad, Côte d'Ivoire, Guinea, Mali, Mauritania, Niger, and Senegal) HIV testing coverage remained below 40%, reflecting limited access to and uptake of PMTCT services. Facilitating factors included media exposure, geographic proximity to health facilities, higher socioeconomic status, urban residence, women's satisfaction with the quality of care, partner involvement in treatment follow-up and appointments, and support from social networks. Additional organizational strategies, such as service co-location, home delivery of medications, phone reminders, and peer support among women, were also reported as enablers. Conversely, multiple barriers hindered access and adherence, including illiteracy, rural residence, refusal of HIV testing by some pregnant women, low social acceptability of HIV-related services, partner opposition, doubts about test results, lack of confidentiality, mobility among HIV-positive

women, and fear of stigma. **Conclusion**: This review underscores that despite the presence of several enabling factors, persistent challenges remain in HIV testing, treatment adherence, and stigma reduction. Strengthened interventions that enhance awareness, improve service accessibility, and foster social acceptability are needed to maximize the effectiveness of PMTCT programs in SSA. This would allow Guinea to readjust its interventions for the prevention of mother-to-child transmission of HIV. However, it remains essential to conduct a prospective mixed-methods study in Guinea to further analyze access and the determinants of the continuum of care for the prevention of mother-to-child transmission of HIV.

Keywords

Determinants, Continuum of Care Coverage,
Prevention of Mother-to-Child Transmission of HIV,
Scoping Literature Review, Sub-Saharan Africa

1. Introduction

The human immunodeficiency virus (HIV) pandemic remains one of the leading global public health threats and poses a substantial burden on sub-Saharan African countries, which account for more than two-thirds of the global HIV burden. According to data from the Joint United Nations Programme on HIV/AIDS (UNAIDS), an estimated 39.9 million people were living with HIV worldwide in 2023, including 38.6 million adults and 1.4 million children. That same year, there were 1.3 million new infections and 630,000 AIDS-related deaths. In sub-Saharan Africa, women and girls accounted for 62% of all new HIV infections [1].

Mother-to-child transmission (MTCT) of HIV remains a major source of new infections. In the absence of treatment, the risk of transmission is estimated at 5–10% during pregnancy, 10–20% at delivery, and 10% - 15% during breastfeeding, with an overall cumulative risk of 15% - 45% [2]. In this region, women represent 51% of all infections [3], and more than 90% of new pediatric HIV infections occur through vertical transmission [4].

Despite the scale-up of prevention of mother-to-child transmission (PMTCT) programs, coverage and uptake remain limited. Transmission rates continue to range between 15% and 45%, and retention of HIV-positive women within programs is often low [5]. In Nigeria, one study reported that 30% of HIV-infected mothers and 25% of HIV-exposed infants were lost to follow-up [6]. In South Africa, Rosen *et al.* [7] documented substantial losses across the PMTCT continuum of care, beginning with women who did not return for initial CD4 testing and those who failed to initiate antiretroviral therapy despite being eligible. Similarly, Peltzer *et al.* [8] identified perceived lack of confidentiality and supply chain disruptions as major barriers to PMTCT service utilization.

The PMTCT cascade encompasses a set of essential interventions, including

antenatal care, HIV counseling and testing, provision of antiretroviral prophylaxis, safe delivery practices, safe infant feeding, pediatric follow-up with HIV testing, family planning, and linkage to long-term HIV care and treatment, including initiation of highly active antiretroviral therapy (HAART) when indicated.

However, while numerous studies have examined isolated stages of the PMTCT cascade, to date no comprehensive review has synthesized coverage and determinants across the full continuum in sub-Saharan Africa. This gap limits understanding of critical points of attrition, from the antenatal period through postnatal follow-up of HIV-exposed infants, at a time when an integrated perspective is crucial to enhancing the effectiveness of interventions.

This scoping review aimed to address this gap by synthesizing available evidence on coverage and determinants of the PMTCT continuum in sub-Saharan Africa. Specifically, the objectives were to (i) assess coverage across the different stages of the PMTCT cascade, (ii) identify factors facilitating service utilization, and (iii) highlight barriers hindering access and effectiveness of PMTCT services.

2. Methods

2.1. Study Design

This study was a scoping review. According to Colquhoun *et al.*, a scoping review is *"a form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area by systematically searching, selecting, and synthesizing existing knowledge"* [9].

The review followed the methodological framework described by **Arksey and O'Malley** for conducting a scoping review [10], which includes the following steps:

1) identifying the research questions.
2) identifying relevant studies.
3) selecting the studies.
4) extracting the data.
5) analyzing and synthesizing the findings.

The review was conducted and reported in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist [11].

2.2. Identification of Research Questions

To achieve the objectives of this review on the coverage and determinants of the prevention of mother-to-child transmission (PMTCT) continuum of care in sub-Saharan Africa, the following research questions were formulated:

1) What is the coverage of the PMTCT cascade of care in sub-Saharan Africa?
2) What factors facilitate the utilization of PMTCT services in this region?
3) What factors hinder the utilization of PMTCT services in sub-Saharan Africa?

The response to these questions provided insights into the coverage of the PMTCT

care continuum, while identifying both facilitating factors and barriers to the utilization of PMTCT services. Furthermore, we included studies published between 2012 and 2024 to ensure a comprehensive and up-to-date analysis of the literature.

2.3. Identification of Relevant Studies

Several types of studies were included in this review, namely mixed-methods studies, qualitative studies, and cross-sectional studies reporting on the coverage and determinants of the PMTCT continuum in sub-Saharan Africa.

Publications in English and French were identified through searches of the following major scientific databases: PubMed, African Journals Online (AJOL), and Google Scholar. In addition, gray literature was consulted, including Google searches and master's theses in Public Health.

The search strategy relied on a combination of keywords and their synonyms. These keywords were initially identified through an exploratory search in PubMed by reviewing key articles on the topic. From these articles, keywords were extracted from titles, abstracts, and author-provided keywords to build a comprehensive list used for the systematic search.

Additionally, a snowball citation approach was employed by examining the reference lists of included studies to identify other relevant articles.

The search strategy combined seven key concepts: determinants, continuum, facilitating factors, hindering factors, PMTCT, HIV, and "sub-Saharan Africa". Boolean operators were applied by combining the key concepts in English and their synonyms, for example: (determinants) OR ("associated factors") OR (challenges) OR (obstacles) OR (barriers) OR ("facilitating factors") OR ("hindering factors")) AND (continuum) OR (continuity) OR (pursuit) OR (care) OR (cascade)) AND (PMTCT) OR ("pregnant woman") OR (transmission) OR ("prenatal consultation")) AND (HIV)) OR (seropositive)) AND ("Sub-Saharan Africa").

2.4. Study Selection

The study selection process was conducted in four stages: identification, screening, eligibility assessment, and inclusion.

1) Identification: all documentary sources retrieved from scientific, academic, and gray literature databases were combined, and duplicates were removed.

2) Screening: titles and abstracts were reviewed, and studies not related to the topic of the review were excluded.

3) Eligibility: the full texts of the remaining studies were assessed for relevance based on the *population*, *concept*, and *context* criteria recommended by the Joanna Briggs Institute for scoping reviews [12].

4) Inclusion: a study was considered eligible if it met all three of these criteria (Table 1).

Two independent reviewers systematically screened the studies in two stages: first by selecting titles and abstracts, and then by reviewing the full texts according to predefined inclusion criteria. This approach aimed to minimize selection bias

and ensure the reliability of the results. Data extraction was carried out using a standardized form that included information on the country, study design, sample size, interventions, and key outcomes related to PMTCT. In case of disagreement between reviewers, consensus was sought through discussion. When necessary, a third reviewer intervened to resolve disagreements, thereby ensuring the methodological rigor of the process.

Table 1. Eligibility criteria (elements) for studies included in the review.

Elements	Description of criteria
Population	A study was considered eligible if it focused on pregnant women or mothers of children residing in one of the sub-Saharan African countries.
Concepts	A study was deemed eligible if it addressed the following concepts: Determinants, Continuum, Facilitators, Barriers, PMTCT, and HIV. Determinants: factors influencing the health status of pregnant women and mothers with respect to PMTCT continuum coverage (testing, treatment, regular follow-up, and treatment continuation). Continuum: a set of successive and continuous stages through which patients move without discrete breaks (testing, treatment, regular follow-up, and treatment continuation). Facilitators: factors or conditions that promote or support the use of PMTCT services. Barriers: factors or conditions that limit or hinder the use of PMTCT services. PMTCT (Prevention of Mother-to-Child Transmission): comprehensive programs aimed at reducing HIV transmission from mother to child, including HIV testing for women of reproductive age, medical and psychosocial follow-up, antiretroviral (ARV) treatment for infected women, prophylaxis and follow-up of exposed children, and early infant diagnosis with monitoring through the end of breastfeeding. HIV: the human immunodeficiency virus, which progressively destroys the immune system and causes acquired immunodeficiency syndrome (AIDS).
Context	A study was considered eligible if conducted in sub-Saharan Africa, as defined by the United Nations Development Programme (UNDP), encompassing 46 countries across four subregions: West Africa: Guinea, Benin, Côte d'Ivoire, Burkina Faso, Senegal, Cape Verde, Mali, Gambia, Ghana, Sierra Leone, Togo, Guinea-Bissau, Liberia, Mauritania, Niger, Nigeria. East Africa: Madagascar, Tanzania, South Sudan, Kenya, Mozambique, Rwanda, Burundi, Eritrea, Ethiopia, Malawi, Uganda. Central Africa: Angola, Democratic Republic of the Congo, Cameroon, Chad, Equatorial Guinea, Central African Republic, Gabon, Republic of Congo, São Tomé & Príncipe. Southern Africa: Botswana, South Africa, Eswatini, Zimbabwe, Lesotho, Namibia, Zambia.

2.5. Data Extraction

Data were extracted using a pre-established matrix in Microsoft Excel and included:

1) Macro-data describing the articles (first author, year of publication, study country, title, and objective).

2) Micro-data related to analytical characteristics, specifically the coverage of

the PMTCT continuum of care in sub-Saharan Africa, as well as factors facilitating or hindering the use of PMTCT services in the region.

2.6. Data Analysis and Synthesis

A descriptive approach was used for the analysis. Article characteristics were first summarized, followed by a synthesis of information on continuum of care coverage and factors promoting or limiting the use of PMTCT services in sub-Saharan Africa. Results were organized and presented in thematic and sub-thematic tables. Themes were categorized based on similarities and differences and interpreted according to the descriptions provided by the authors of the included studies.

3. Results

3.1. Characteristics of the Reviewed Studies

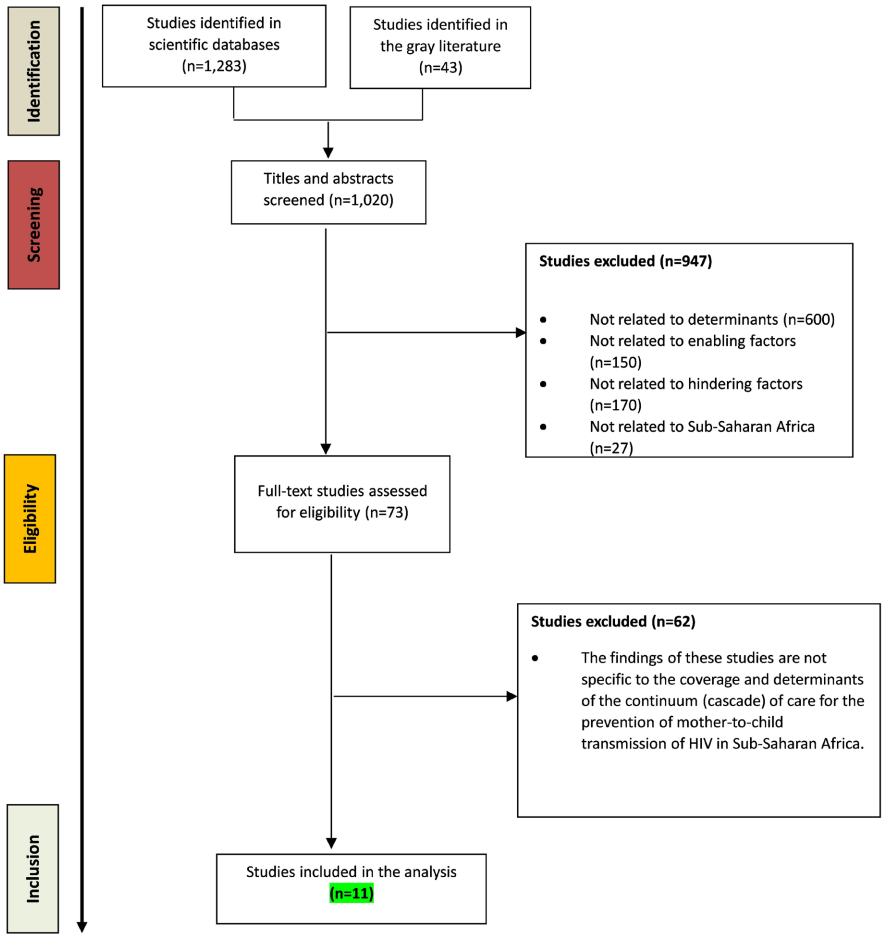

Figure 1. Study Selection Flowchart (adapted from the model by Tricco *et al.*) [24].

A total of eleven studies were included in this review (**Figure 1**), covering nine (9) sub-Saharan African countries. They were conducted in diverse contexts, notably in Uganda and Burkina Faso [13], Zimbabwe [14], Ethiopia [15]-[17], Lesotho [18], Malawi [19] [20], South Africa [21], Togo [22], and Swaziland [23]. The

publications, spanning from 2012 to 2025, encompassed different research designs: qualitative studies [14] [19] [20] [23], mixed-method approaches [13] [18] [21], and cross-sectional surveys [15]-[17] [22]. **Tables 2-4** provide a summary of the characteristics of the 11 included studies, including the publication date, country of origin, and study design. They also highlight the themes and sub-themes analyzed in relation to factors facilitating and hindering coverage across the HIV mother-to-child transmission prevention care cascade.

Table 2. Characteristics of 11 Studies Included in the 2025, Literature Review on Coverage and Determinants of the HIV Mother-to-Child Transmission Care Continuum in Sub-Saharan Africa.

Studies	Authors	Year of Publication	Country	Study Design
Study 1	Kokou Tegueni *et al.*	2024	Togo	Cross-sectional study
Study 2	Bashir Raru *et al.*	2024	Ethiopia	Cross-sectional study
Study 3	Tadesse Tarik Tamir *et al.*	2024	Ethiopia	Cross-sectional study
Study 4	Anita Hardon *et al.*	2012	Uganda, Burkina Faso	Mixed-methods study
Study 5	Kirsty Brittain *et al.*	2015	South Africa	Mixed-methods study
Study 6	Mihret Getnet *et al.*	2025	Ethiopia	Cross-sectional study
Study 7	Leila Katirayi *et al.*	2016	Eswatini	Qualitative study
Study 8	Salem Gugsa *et al.*	2017	Malawi	Qualitative study
Study 9	Carol W. Holtzman *et al.*	2015	Lesotho	Mixed-methods study
Study 10	Addmore Chadambuka *et al.*	2018	Zimbabwe	Qualitative study
Study 11	Leila Katirayi *et al.*	2016	Malawi	Qualitative study

Table 3. Main Themes and Sub-Themes Related to Factors Facilitating the Use of PMTCT Services: A Literature Review on Coverage and Determinants of the HIV Mother-to-Child Transmission Care Continuum in Sub-Saharan Africa.

Factors	Themes	Sub-Themes	References
Factors facilitating the use of PMTCT services	Factors facilitating HIV testing	Media exposure	Bashir Raru
		Access to a health facility	
		Wealth index (high-income)	
		Number of antenatal care visits	
		Place of residence (urban)	
		Satisfaction with PMTCT services	Anita Hardon
	Factors facilitating treatment adherence	Partner involvement in medication adherence and appointment keeping	Kirsty Brittain
		Role of social networks	Salem Gugsa
		Fear of consequences of stopping ART	
		Healthy appearance of individuals on ART	Leila Katirayi
		Home delivery of medications	Carol W. Holtzman
		Co-location of multiple services	

Continued

		Phone call reminders Desire to remain healthy Experience sharing	Addmore Chadambuka

Table 4. Main Themes and Sub-Themes Related to Factors Hindering the Use of PMTCT Services: A Literature Review on Coverage and Determinants of the HIV Mother-to-Child Transmission Care Continuum in Sub-Saharan Africa.

Factors	Themes	Sub-Themes	References
Factors hindering the use of PMTCT services	**Factors hindering HIV testing**	Low wealth index (poverty) Rural residence High community illiteracy	Tadesse Tarik Tamir
		Refusal of HIV testing by some pregnant women	Anita Hardon
	Factors hindering HIV treatment uptake	Low acceptability of HIV services	Bashir Raru
		Husband's disapproval of treatment Lack of trust in HIV test results	Leila Katirayi
		Breach of confidentiality	Anita Hardon
	Factors hindering continuity of care	Perceived good health status Fear of antiretroviral side effects	Addmore Chadambuka
		Reluctance to lifelong antiretroviral treatment Lack of partner support Mobility of some HIV-positive women	Salem Gugsa
		Fear of stigma	Carol W. Holtzman

3.2. Coverage of the Continuum (Cascade) of PMTCT Services in Sub-Saharan Africa

Three studies [15] [16] [22] reported on the coverage of the continuum of care for PMTCT in Sub-Saharan Africa. One study assessed both screening and treatment coverage, while the other two focused solely on screening coverage.

3.3. HIV Testing Coverage among Pregnant Women in Sub-Saharan Africa

Three studies examined HIV testing coverage among pregnant women in sub-Saharan Africa.

The first study included 3,030 women who received pre-test counseling and underwent HIV testing. Among them, 118 tested positives, corresponding to an HIV-1 prevalence of 3.9% (95% CI). In the same study, analysis of 3,148 cord blood samples identified 121 HIV-1 positive cases, yielding a prevalence of 3.8% (95% CI: 3.2 - 4.6). Of these HIV-positive women, 67.8% were aware of their status prior to the current pregnancy, 29.7% were diagnosed during antenatal care visits, and 2.5% were identified at delivery.

The second study estimated the average HIV testing coverage during pregnancy at 62.9% (95% CI), with substantial regional disparities. Malawi reported the highest coverage (89.9%; 95% CI: 89.3 - 90.6), whereas Mauritania had the lowest (5.7%; 95% CI: 5.1 - 6.4).

The third study reported an overall HIV testing prevalence of 87% among pregnant women, ranging from 13% in Mauritania to 99% in Rwanda and South Africa. The highest rates were clustered in countries across Eastern and Southern Africa, including Burundi, Kenya, Malawi, Namibia, Tanzania, Uganda, Zambia, and Zimbabwe. Conversely, countries such as Guinea, Chad, Côte d'Ivoire, Mali, and Senegal exhibited markedly lower testing coverage. Notably, among women who accessed antenatal care, only 50.8% were offered an HIV test [15].

Taken together, these findings highlight significant progress in certain regions while underscoring persistent inequalities across countries. They also reveal critical gaps in the systematic provision of HIV testing during antenatal care.

3.4. Antiretroviral Treatment Coverage among HIV-Positive Women

According to the only study that assessed treatment coverage, 85.9% of HIV-positive women (104 out of 121) were receiving antiretroviral therapy (ART) prior to delivery. In 9.2% of cases (11 out of 121), ART treatment status remained unknown, while six women had not received any therapy. These findings highlight a predominantly high level of care but also underscore the need to strengthen follow-up and ensure universal access to treatment for all affected women [22].

3.5. Facilitating Factors for the Use of PMTCT Services in Sub-Saharan Africa: Synthesis and Key Elements

Seven major studies [13] [14] [16] [18]-[21] have analyzed the primary drivers promoting the utilization of Prevention of Mother-to-Child Transmission (PMTCT) of HIV services in Sub-Saharan Africa. These studies identify two main areas: factors encouraging HIV screening among pregnant women, and those supporting adherence and continuity of antiretroviral therapy for women living with HIV.

3.6. Factors Facilitating HIV Screening

Two studies [13] [16] highlighted several key variables influencing pregnant women's decision to undergo HIV testing:

1) Media Exposure: Women who are regularly exposed to media are better informed about HIV and more aware of the importance of screening. This exposure increases their motivation to learn their serostatus and seek HIV testing.

2) Accessibility of Health Facilities: Easy access to a healthcare facility is a crucial driver. Women who can easily reach a health center are more likely to be screened, facing fewer logistical barriers.

3) Frequency of Prenatal Visits: Women attending at least four prenatal con-

sultations have higher chances of being tested, as these appointments offer multiple opportunities for screening—even when there are supply interruptions in testing reagents.

4) Wealth Level: Women from wealthier backgrounds have more resources to overcome financial barriers, such as transportation costs, facilitating their access to screening.

5) Place of Residence: Urban residence increases the likelihood of being screened, as healthcare infrastructure is better developed, and providers are better trained in cities than in rural areas.

6) Satisfaction with PMTCT Services: A multicenter study conducted in Burkina Faso and Uganda [13] found that the quality of reception, respect for patients, confidentiality, and quality counseling all contributed to patient satisfaction and, consequently, increased acceptance of HIV screening.

3.7. Factors Supporting Adherence to Antiretroviral Treatment

Five studies [14] [18]-[21] examined determinants of continued care among women living with HIV:

1) Partner Involvement: Spousal support, especially in medication adherence and managing medical appointments, is fundamental. Partners remind women to take their medication and assist with the logistics of attending consultations.

2) Role of Social Networks: Belonging to social networks, support groups, or circles of informed friends enhances acceptance of HIV status and encourages continued treatment by spreading the message that living with HIV is possible with good adherence.

3) Home Delivery of Medication and Phone Reminders: Interventions such as home delivery of antiretrovirals (ARVs) and sending phone reminders for medication intake and appointments improve treatment adherence.

4) Service Co-location: Integrating multiple health services within a single facility simplifies the care pathway, reducing the need to travel between different locations.

5) Desire to Stay Healthy and Experience Sharing: The wish to maintain good health, remain alive for loved ones, and share positive experiences among patients serve as powerful sources of motivation.

6) Healthy Appearance on Treatment: Noticing physical improvement or seeing others healthy while on ARVs encourages ongoing adherence to therapy.

Optimizing the use of PMTCT services in Sub-Saharan Africa relies on a combination of structural, social, and individual factors. Improving access to information and health services, as well as providing comprehensive and personalized support, are critical levers to strengthen prevention and support for pregnant women facing HIV. Enhancing partner involvement, leveraging community-based strategies, and tailoring services are essential to ensuring care continuity and advancing toward the elimination of mother-to-child transmission of HIV.

"*It' a good thing ... because I was pregnant and I wanted to know my status, and*

it's also essential for pregnant women". EIA, Young woman, Burkina Faso [13].

"*It's a good thing. Because if a mother tests positive, she always receives treatment*". *EIA, Young woman, Uganda* [13].

3.8. Factors Promoting Continued ARV Care

Multiple studies conducted in sub-Saharan Africa have highlighted key elements that encourage the continuity of antiretroviral (ARV) care among women living with HIV. In South Africa, partner involvement—particularly in medication adherence and attending medical appointments—serves as a major lever for treatment adherence [21]. In Malawi, support from social networks and the fear of consequences associated with interrupting ARV therapy have emerged as decisive factors for persistence in care [19]. Additionally, in Malawi, the healthy appearance of individuals on ARV treatment has been reported to motivate others to continue their own therapy [20]. In Lesotho, home delivery of medication, telephone reminders, and the co-location of multiple medical services greatly facilitate therapeutic continuity [18]. Furthermore, in Zimbabwe, the desire to remain healthy and the sharing of positive experiences among patients have been identified as essential drivers for ongoing care [14].

3.9. Partner Involvement: A Crucial Support

The engagement of partners or spouses in medication adherence and the management of medical appointments proves to be crucial for maintaining treatment among women living with HIV. In South Africa, it has been observed that partners who are attentive to their spouse's health regularly remind them to take their medication and encourage strict adherence to their treatment plan. Some partners even go themselves to healthcare facilities or clinics to collect ARV medications, while others cover transportation costs and remind their spouse of important medical appointment dates [21].

"He [partner] is the one who reminds me to take my medication..." EIA, Woman, South Africa [21]

3.10. Role of Social Networks

In Malawi, a study highlighted the importance of social networks in supporting continued ARV care among HIV-positive women. These networks disseminated positive messages about the possibility of living a healthy life with HIV, if treatment was strictly adhered to. Constant exposure to such information enabled women to move from a phase of resignation to a more progressive acceptance of their HIV status.

"I have found nothing that could prevent me from taking the medication, as my life is now governed by the medication" (IDI, Woman, Malawi) [19].

3.11. Fear of the Consequences of Stopping ARVs

Also in Malawi, fear of the repercussions associated with interrupting treatment

was a powerful driver of adherence. Before starting therapy, women received counseling on the benefits of ARVs and the dangers of discontinuation, which could lead to disease progression or death. This awareness strengthened their determination to continue treatment.

"If you stop or abandon [the ARVs], it means the diseases will never leave you. Continue taking the medication to defeat the virus" (IDI, Woman, Malawi) [19].

3.12. Healthy Appearance of Women on ARVs

Visible health improvement among women already on ARVs further motivated others to adhere. The study conducted in Malawi reported that the healthy appearance of treated patients elicited admiration and a desire to look like them.

"I thought if these people are taking medication and look healthy... I want to look like that too... So I decided to take the medication" (FGD, Breastfeeding Woman, Malawi) [20].

3.13. Home Delivery of Medication

In Lesotho, home delivery of ARVs, designed to ensure confidentiality, was well received by women. This proximity-based strategy reduced barriers related to travel and stigma, while promoting adherence [18].

3.14. Phone Reminders

Also in Lesotho, personalized phone reminders facilitated care. Healthcare providers called women to confirm appointments or followed up in case of absence, thus strengthening continuity of care [18].

3.15. Co-Location of Services

Bringing together several health services in one location allowed women to receive care without being identified as HIV-positive. This arrangement protected their confidentiality and minimized the risk of stigma [18].

3.16. Desire to Stay Healthy

In Zimbabwe, many women's main motivation was the desire to remain healthy and extend their life expectancy. Regular use of ARVs was seen as essential to achieving this goal [14].

3.17. Experience Sharing

In Zimbabwe, the testimonies of women living with HIV played a decisive role. These accounts highlighted the benefits of ARVs and strengthened treatment acceptance among other women.

"Yes, it is encouraging, because if you hear about their experiences, you learn from what they went through, how it helped them, where they came from and where they are going" (FGD, Breastfeeding Woman, Zimbabwe) [14].

3.18. Factors Hindering the Use of PMTCT Services

Six studies conducted in different countries reported various obstacles related to HIV testing, treatment, and continued ARV care.

3.19. Barriers to Testing

In Ethiopia, poverty, illiteracy, and rural residence significantly reduced uptake of testing [17]. Poor women lacked the means to access health facilities. Illiteracy fueled misconceptions about the non-existence of HIV. Finally, rural areas suffered from insufficient health infrastructure and limited qualified personnel. In Burkina Faso and Uganda, the refusal of some pregnant women was a major barrier. Many cited the lack of their husband's consent and postponed testing until delivery.

"When you give them information and counseling, especially about HIV, some will say: Listen, sister, because I did not come with my husband, I would prefer to do the test when we are together" (IDI, Nurse, Burkina Faso) [13].

3.20. Barriers to Treatment

In Ethiopia, the non-acceptance of HIV services prevented some women who tested positive from initiating treatment, despite its availability [16].

In Swaziland, negative opinions from husbands, in a patriarchal society, greatly limited women's ability to start treatment [19].

"Here, most decisions are made by the husband... It becomes very difficult for a woman to decide on her own to start taking the medication in her husband's absence" (IDI, Healthcare Provider, Swaziland) [19].

Also in Swaziland, some women doubted their test results and preferred to wait for confirmation before starting ARVs [19].

In Burkina Faso and Uganda, breaches of confidentiality were an additional barrier, with cases of HIV status disclosure by community counselors.

"The counselor in my village announced that I had tested positive... I went to another village to deliver and stopped taking the medication" (IDI, Woman, Uganda) [13].

3.21. Barriers to Continued Treatment

In Swaziland, feeling healthy, fear of side effects, and reluctance to commit to lifelong treatment led to interruptions [23].

"Women had trouble accepting antiretroviral treatment when they felt healthy" (IDI, Nurse, Swaziland) [23].

Feared side effects, body changes, skin rashes, lumps, prompted some women to stop ARVs [23].

"She gave me examples of people she knows... some of them used to be beautiful, but they are not at all what they once were" (IDI, Nurse, Swaziland) [23].

Lack of partner support, often associated with domestic violence, led some women in Malawi to discontinue treatment [19].

Mobility, related to agricultural work or fleeing stigma, also complicated retention in care [19].

"Mobility was another barrier to retention... That is a reason for interruption of care and treatment" (IDI, Healthcare Provider, Malawi) [19].

In Lesotho, fear of stigma remained a major barrier, forcing some women to hide their status and stop taking medication [18].

"Stigma was most often cited as a barrier to retention... They hid their medication or skipped doses to avoid suspicion" (IDI, Healthcare Provider, Lesotho) [18].

4. Discussion

This review highlights that the coverage and determinants of the continuum of care for the prevention of mother-to-child transmission (PMTCT) of HIV in sub-Saharan Africa vary considerably across countries. These differences primarily concern HIV testing coverage [15] [16] [22] and treatment coverage [22].

4.1. Factors Facilitating the Use of PMTCT Services

Factors that facilitate access to HIV testing include media exposure, access to healthcare facilities, higher socioeconomic status, adequate number of antenatal care visits, urban residence [16], and satisfaction with PMTCT services [13].

Regarding adherence and continuity of treatment, several enabling factors have been reported: partner involvement in ensuring adherence to medication and appointments [21], the influence of social networks, fear of the consequences of discontinuing antiretroviral therapy (ART) [19], perception of good health among those on ART [20], home delivery of medications, phone reminders, co-location of multiple services [18], the desire to remain healthy, and sharing of personal experiences [14].

A review conducted across several sub-Saharan African countries indicated that the involvement of community health workers improved both the quality and availability of PMTCT services. Their role helped reduce early attrition in the care cascade, alleviated the workload of qualified healthcare providers, and reduced HIV-related stigma. These workers facilitated service utilization by conducting community education on HIV, leading support groups for women living with HIV, and re-engaging patients previously lost to follow-up [25].

In Ethiopia, factors such as urban residence, number of antenatal visits, greater HIV knowledge, partner support, and the motivation to protect the unborn child were identified as determinants promoting PMTCT service utilization [26] [27]. These findings suggest that when services are delivered under conditions aligned with WHO guidelines, women are more likely to engage with the care continuum, reinforced by collective memory of the devastating impact of HIV during the early epidemic.

4.2. Factors Hindering the Use of PMTCT Services

Conversely, several barriers to PMTCT service utilization have been reported. For

HIV testing, these include poverty, high community illiteracy, rural residence [17], and refusal by some pregnant women [13].

Regarding treatment, barriers include social non-acceptability of HIV services [16], partner opposition, disbelief in test results [19], breaches of confidentiality [13], fear of side effects, reluctance to commit to lifelong ART [23], lack of partner support, mobility of HIV-positive women [19], and persistent fear of stigma [18].

In Kenya, concerns about confidentiality, stigma, and poor knowledge of HIV and ART were identified as major obstacles [28]. In South Africa, poor understanding of ART, difficulties managing its practical requirements, stigma, limited access to services, and, in some cases, negative attitudes of healthcare providers were also reported [29].

These barriers can be explained by the insufficient availability or absence of PMTCT services in certain areas, particularly rural zones. In several middle-income countries in sub-Saharan Africa, access remains a major challenge, with some women traveling tens of kilometers to reach facilities where PMTCT services are scarce or nonexistent. Additionally, persistent misconceptions, such as preference for traditional medicine, further exacerbate the problem.

These obstacles increase the vulnerability of HIV-positive pregnant women, raise their viral load, and heighten the risk of vertical transmission, thereby undermining the achievement of the 95-95-95 targets.

4.3. Policy Implications

To leverage facilitating factors and reduce barriers, national programs should expand awareness campaigns, including social media outreach and door-to-door initiatives. Engaging credible community actors, including traditional practitioners, may strengthen trust and adherence. Additionally, establishing and equipping healthcare centers in rural areas, along with securing a reliable supply of medical inputs, is essential.

This review also revealed that HIV testing coverage remained below 40% in several countries, including Chad, the Democratic Republic of Congo, Côte d'Ivoire, Guinea, Mali, Mauritania, Niger, and Senegal [14]. In Zambia, women with higher socioeconomic status were 6.6 times more likely to have been tested than those from lower socioeconomic backgrounds [30]. Low attendance at antenatal care visits and frequent stock-outs of testing supplies are likely contributing factors.

4.4. Strengths and Limitations

This review represents one of the few comprehensive syntheses of PMTCT coverage and determinants in sub-Saharan Africa, providing valuable evidence to inform national and regional HIV policies. However, its main limitation is that it was restricted to two databases and eleven studies, preventing full representation of all country-specific realities.

5. Conclusions

This review indicates that in several sub-Saharan African countries, the coverage of

the continuum of care for the prevention of mother-to-child transmission (PMTCT) of HIV—particularly screening—remains low and falls short of global HIV elimination targets. Several factors, however, facilitate the utilization of PMTCT services. These include media exposure, access to health facilities, higher socio-economic status, the number of antenatal care visits, urban residence, and satisfaction with services. Treatment adherence is further supported by partner involvement in maintaining dosing schedules and appointments, the influence of social networks, fear of the consequences of stopping antiretroviral therapy (ART), perception of improved health status among patients on treatment, home delivery of medications, phone reminders, service colocation, the desire to remain healthy, and sharing of personal experiences.

Conversely, numerous barriers limit access to services, including poverty, low community literacy, rural residence, refusal by some pregnant women, social non-acceptability of services, partner opposition, lack of credibility of test results, breaches of confidentiality, fear of side effects, reluctance to adhere to lifelong treatment, lack of partner support, mobility of HIV-positive women, and stigma. Strengthened interventions aimed at increasing awareness, improving service accessibility, and promoting social acceptability are essential to maximize the effectiveness of PMTCT programs in sub-Saharan Africa. This would allow Guinea to readjust its interventions for the prevention of mother-to-child transmission of HIV. Nevertheless, conducting a prospective mixed-methods study in Guinea remains crucial to more deeply analyze access and the determinants of the PMTCT continuum of care.

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Ethical Approval

This study did not involve human subjects and was conducted as a literature review. The research protocol was approved by a committee of faculty members at Gamal Abdel Nasser University of Conakry prior to the commencement of the study.

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Conflicts of Interest

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

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