Texila International Journal | Open Access | Peer Reviewed

Journal: Texila International Journal of Academic Research
https://doi.org/10.21522/TIJAR.2014.13.03.Art031

ISSN: 2520-3088
Volume 13 Issue 3, 2026

Community-Based Support Systems and Health System Gaps Affecting Viral Load Follow-up in Pmtct Programs in Cameroon: A Narrative Review

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Cite this article as: Agbor ED, Queenta EM, Nkemta FE, Bate FBT, Velda EB. Community-based support systems and health system gaps affecting viral load follow-up in PMTCT programs in Cameroon: a narrative review. Texila Int J Acad Res. 2026;13(3).
https://doi.org/10.21522/TIJAR.2014.13.03.Art031

Received: 22.05.2026
Accepted: 09.07.2026
Published: 31.07.2026

Abstract *Viral load monitoring remains an essential component of Prevention of Mother-to-Child Transmission (PMTCT) programs because it supports treatment monitoring, promotes viral suppression, and reduces the risk of HIV transmission from mother to child. However, continuity of viral load follow-up among pregnant and breastfeeding women living with HIV continues to face several challenges in Cameroon. This narrative review examined community-based support systems and health system gaps affecting viral load follow-up within PMTCT programs in Cameroon. A narrative review approach was used to synthesize evidence from quantitative studies, qualitative studies, mixed-method research, technical reports, and policy documents published between 2010 and 2026. Electronic databases including PubMed, Google Scholar, Scopus, African Journals Online, and Web of Science were searched alongside reports from the World Health Organization, UNAIDS, and the Cameroon National AIDS Control Committee. The review identified delayed laboratory result turnaround time, shortage of healthcare personnel, weak patient tracking systems, stigma, transportation difficulties, poor male partner involvement, and insecurity in conflict-affected regions as barriers affecting continuity of viral load monitoring. Community-based interventions such as mentor mother programs, peer support groups, community health worker follow-up, adherence counseling, and mobile phone reminders were found to improve retention in care, adherence to antiretroviral therapy, and continuity of PMTCT follow-up services. The review concludes that strengthening healthcare systems alongside expansion of community-based support interventions may improve viral load follow-up and PMTCT outcomes in Cameroon. Further implementation research is needed to evaluate context-specific approaches for improving continuity of HIV care among pregnant and breastfeeding women.*

Keywords *Cameroon, Community-based Support Systems, HIV, Maternal Health, PMTCT, Viral Load Follow-up.*

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https://doi.org/10.21522/TIJAR.2014.13.03.Art031

Introduction

Human Immunodeficiency Virus (HIV) infection continues to be a major public health challenge globally, particularly in sub-Saharan Africa where women and children remain disproportionately affected. Despite significant progress in the scale-up of antiretroviral therapy (ART) and Prevention of Mother-to-Child Transmission (PMTCT) services, vertical transmission of HIV remains a concern in many low- and middle-income countries, including Cameroon. Viral load monitoring has become a central component of PMTCT programs because it helps evaluate treatment effectiveness, monitor adherence to ART, and reduce the risk of HIV transmission from mother to child during pregnancy, delivery, and breastfeeding [1].

The World Health Organization recommends routine viral load testing for pregnant and breastfeeding women living with HIV to ensure early identification of treatment failure and sustained viral suppression throughout the PMTCT period [2]. Women who maintain suppressed viral load while receiving ART have significantly lower chances of transmitting HIV to their infants. Viral load monitoring also provides an important opportunity for healthcare providers to identify adherence challenges and provide timely interventions to improve maternal and child health outcomes.

In Cameroon, substantial efforts have been made to strengthen PMTCT services through the expansion of HIV testing, integration of ART services into maternal healthcare, decentralization of treatment centers, and implementation of national HIV control strategies. Support from international partners such as the World Health Organization, UNAIDS, the Global Fund, and PEPFAR has contributed to increased access to HIV care and treatment services across the country [3]. Despite these efforts, continuity of care and viral load follow-up among pregnant and breastfeeding women remain suboptimal in several regions of Cameroon.

A number of health system gaps continue to affect the effectiveness of viral load monitoring within PMTCT programs in Cameroon. Delayed laboratory processing, prolonged turnaround time for viral load results, shortages of trained healthcare personnel, weak patient tracking systems, stock-outs of laboratory supplies, and inadequate counseling services have been reported in different healthcare settings [4]. In conflict-affected regions such as the North West and South West Regions, insecurity, population displacement, and temporary disruption of health services have further weakened continuity of HIV care among pregnant and breastfeeding women [5].

Community and social factors also play a major role in influencing adherence to PMTCT services and viral load follow-up. HIV-related stigma, fear of disclosure, poor male partner involvement, poverty, transportation difficulties, and cultural beliefs continue to affect women's willingness and ability to remain engaged in HIV care throughout pregnancy and breastfeeding [6]. Women who lack social or family support are more likely to miss clinic appointments, interrupt treatment, or become lost to follow-up.

To address these challenges, community-based support systems have increasingly been integrated into PMTCT interventions in Cameroon. Programs involving mentor mothers, peer educators, community health workers, support groups, adherence counseling, and home visits have shown promising results in improving retention in care, adherence to ART, and linkage to viral load monitoring services [7]. These interventions help bridge the gap between healthcare facilities and communities by providing psychosocial support, treatment education, follow-up, and encouragement for continued participation in PMTCT services.

Although several studies and reports have explored PMTCT implementation and HIV

care in Cameroon, evidence relating specifically to community-based support systems and health system gaps affecting viral load follow-up remains fragmented. There is limited narrative synthesis bringing together existing findings on how these factors influence continuity of care and viral suppression among pregnant and breastfeeding women living with HIV in Cameroon.

This narrative review therefore examines existing evidence on community-based support systems and health system gaps affecting viral load follow-up in PMTCT programs in Cameroon. The review aims to identify major barriers, facilitators, and opportunities for strengthening continuity of care and improving viral suppression outcomes among pregnant and breastfeeding women living with HIV.

Materials and Methods

This study was conducted as a narrative review to synthesize available evidence on community-based support systems and health system gaps affecting viral load follow-up among pregnant and breastfeeding women living with HIV in Cameroon. A narrative review approach was considered appropriate because of the limited number of Cameroon-specific studies directly addressing viral load follow-up within PMTCT programs and the diversity of available evidence, including quantitative studies, qualitative studies, mixed-method research, technical reports, and policy documents.

A comprehensive literature search was conducted between January and March 2026 using electronic databases including PubMed, Google Scholar, Scopus, African Journals Online (AJOL), and Web of Science. Additional information was obtained from reports published by the World Health Organization (WHO), UNAIDS, the Cameroon Ministry of Public Health, the National AIDS Control Committee (NACC), the Global Fund, and PEPFAR-supported programs. Search terms included “viral load follow-up,” “viral load monitoring,” “PMTCT,” “pregnant women living with HIV,” “breastfeeding women,” “community-based support,” “mentor mothers,” “health system barriers,” “retention in care,” and “Cameroon.” Boolean operators such as AND and OR were used to refine the search process.

Studies were included if they focused on Cameroon or contained findings relevant to PMTCT, viral load monitoring, retention in HIV care, adherence challenges, health system barriers, or community-based support interventions among pregnant and breastfeeding women living with HIV. Quantitative studies, qualitative studies, mixed-method studies, technical reports, and policy documents published between 2010 and 2026 in English or French were eligible for inclusion.

Relevant information from selected studies was extracted and synthesized narratively under major thematic areas including health system gaps, community and social barriers, community-based support systems, and conflict-related challenges affecting viral load follow-up within PMTCT programs in Cameroon.

Results

Characteristics of Reviewed Studies

A total of 15 relevant articles and reports published between 2017 and 2023 were included in this narrative review. The reviewed literature consisted of quantitative studies, qualitative studies, mixed-method research, national reports, and technical documents focusing on PMTCT services, viral load monitoring, retention in care, community-based support systems, and health system barriers affecting pregnant and breastfeeding women living with HIV in Cameroon [8]. Most of the studies were conducted in hospital settings, HIV treatment centers, PMTCT clinics, and conflict-affected communities within the country. The findings from the reviewed studies consistently highlighted challenges related to continuity of care, delayed viral load

monitoring, stigma, transportation difficulties, weak patient follow-up systems, and shortage of healthcare personnel (Table 1).

Table 1. Characteristics of Studies Included in the Narrative Review [8–15]

Authors	Year	Study Design	Main Focus	Key Findings	Relevance to the Review
Tchendjou et al.	2021	Quantitative	Retention in PMTCT care	Poor retention reduced continuity of viral load monitoring and ART adherence.	Demonstrates linkage between retention and viral load follow-up.
Ndzi et al.	2019	Qualitative	HIV stigma and adherence	Fear of disclosure and stigma affected clinic attendance and adherence.	Explains social barriers affecting PMTCT continuity.
Fokam et al.	2022	Quantitative	Viral load turnaround time	Delayed viral load results affected continuity of HIV monitoring.	Highlights laboratory-related health system gaps.
Penda et al.	2020	Mixed-method	Access barriers to PMTCT	Transportation and financial difficulties affected clinic attendance.	Identifies structural barriers to follow-up.
Nguefack-Tsague et al.	2018	Quantitative	Social support and adherence	Family support improved adherence among women receiving ART.	Supports importance of community and family support systems.
Fonsah et al.	2017	Quantitative	Retention and viral suppression	Retention in care improved viral suppression outcomes.	Connects continuity of care to viral load suppression.
Ndziessi et al.	2022	Mixed-method	Conflict and continuity of HIV care	Insecurity disrupted PMTCT service utilization.	Shows impact of conflict on viral load follow-up.
Sama et al.	2021	Qualitative	Cultural beliefs and HIV care	Cultural misconceptions contributed to treatment interruption.	Explains sociocultural barriers affecting adherence.
Tita et al.	2020	Quantitative	Health service barriers	Long waiting times discouraged follow-up attendance.	Identifies healthcare delivery gaps.
CAMPHIA Report	2020	National Survey	HIV care cascade	Gaps in viral suppression and continuity of HIV	Provides national PMTCT and viral suppression context.

				care were identified nationally.	
NACC Report	2023	National Report	HIV program performance	PMTCT follow-up challenges remained significant.	Provides current Cameroon HIV program context.
WHO Report	2021	Technical Report	HIV monitoring guidelines	Viral load monitoring remains essential for PMTCT success.	Supports global recommendations on PMTCT monitoring.
UNAIDS Report	2023	Global/National Report	HIV continuity of care	Community-centered interventions improved retention in care.	Supports community-based approaches.
World Bank Report	2022	Technical Report	Conflict and healthcare access	Insecurity disrupted maternal and HIV services.	Demonstrates structural challenges in conflict settings.
Cataldo et al.	2017	Qualitative Review	Mentor mother programs	Mentor mothers improved adherence and psychosocial support.	Supports effectiveness of community support interventions.

Health System Gaps Affecting Viral Load Follow-Up

The literature reviewed shows that several weaknesses within the healthcare system continue to affect viral load follow-up among pregnant and breastfeeding women living with HIV in Cameroon. One of the challenges most frequently reported was the delay in processing viral load samples and returning results to health facilities. In many settings, laboratories struggled with limited equipment, shortage of reagents, and poor coordination between peripheral clinics and reference laboratories. These delays often slowed clinical decision-making and affected timely patient management.

Many studies also pointed to inadequate human resources as a major concern within PMTCT services. In several facilities, healthcare workers managed large numbers of patients with limited staff support. This situation reduced the amount of time available for counseling, patient education, adherence monitoring, and follow-up of missed appointments. Long waiting hours at treatment centers further discouraged some women from attending regular clinic visits for ART refill and viral load monitoring.

Weak record-keeping and patient tracking systems were also identified as barriers affecting continuity of care. In some facilities, follow-up systems for women who missed appointments were either weak or absent. Poor coordination between maternal health clinics, HIV treatment units, and laboratory services sometimes resulted in interrupted follow-up and delayed care.

Community and Social Barriers Affecting PMTCT Follow-up

Beyond the health system, several social and community-related challenges were found to influence adherence and continuity of PMTCT services. HIV-related stigma remained a common problem across many studies reviewed. Fear of discrimination, rejection, or

negative reactions from relatives and community members caused some women to hide their HIV status, avoid clinic attendance, or interrupt treatment during pregnancy and breastfeeding.

Limited male partner involvement was another issue repeatedly highlighted in the literature. Women who lacked emotional, social, or financial support from their partners were more likely to miss appointments and experience difficulties maintaining regular follow-up. Financial hardship also affected continuity of care, especially among women living in rural communities where transportation costs and long distances to health facilities remained major obstacles.

Some studies additionally reported that cultural beliefs and misconceptions surrounding HIV treatment contributed to poor adherence among certain groups of women. In a few communities, traditional treatment practices and misinformation regarding ART discouraged some women from remaining fully engaged in PMTCT services.

Community-based Support Systems and Facilitators

Despite these difficulties, the review showed that community-based support systems continue to play an important role in strengthening PMTCT follow-up and viral load monitoring in Cameroon. Mentor mother programs were consistently identified as one of the most beneficial community interventions. Women supported by mentor mothers often demonstrated better adherence to treatment, improved clinic attendance, and greater confidence in continuing care during pregnancy and breastfeeding.

Community health workers and peer educators also contributed positively through home visits, counseling, appointment reminders, and tracing of women who missed scheduled clinic visits. These interventions helped strengthen the connection between health facilities and communities while improving continuity of HIV care.

Support groups for women living with HIV were similarly reported to provide emotional support, encouragement, and opportunities for experience sharing. In some settings, mobile phone reminders and follow-up calls also helped improve attendance at clinic appointments and viral load monitoring visits.

Conflict-Related Challenges Affecting Viral Load Follow-up

The review further revealed that insecurity and armed conflict continue to affect PMTCT service delivery in some parts of Cameroon, particularly within the North West and South West Regions. Displacement of populations, temporary closure of health facilities, road insecurity, and movement restrictions disrupted access to HIV care among pregnant and breastfeeding women.

Women living in conflict-affected communities often faced interruptions in ART refill appointments and missed viral load monitoring visits because traveling to health facilities became difficult or unsafe. Some women relocated to other communities without proper transfer of medical records, increasing the likelihood of treatment interruption and loss to follow-up.

The insecurity also affected healthcare workers and community-based interventions. Outreach activities, home visits, and community follow-up services became difficult to maintain in some rural areas. Damaged roads and rising transportation costs further complicated access to healthcare services for many women.

Overall, the reviewed evidence indicates that viral load follow-up within PMTCT programs in Cameroon is influenced by a combination of health system weaknesses, community-level barriers, and conflict-related challenges. At the same time, community-based support interventions appear to offer important opportunities for improving retention in care,

adherence to ART, and continuity of viral load monitoring among pregnant and breastfeeding women living with HIV.

Discussion

This narrative review examined community-based support systems and health system gaps affecting viral load follow-up among pregnant and breastfeeding women living with HIV in Cameroon. The findings revealed that continuity of viral load monitoring within PMTCT programs is influenced by several interconnected health system, social, economic, and community-related factors [3, 4, 6]. The review also demonstrated that community-based interventions such as mentor mother programs, peer support groups, community health worker follow-up, and adherence counseling continue to play an important role in strengthening retention in care and improving adherence to antiretroviral therapy among pregnant and breastfeeding women living with HIV [7, 16]. These findings are important because continuity of viral load monitoring remains essential for early detection of treatment failure, maintenance of viral suppression, and reduction of mother-to-child transmission of HIV [2].

One of the major findings from this review was the continued challenge of delayed viral load result turnaround time within PMTCT services in Cameroon. Delayed laboratory processing, shortage of reagents, and weak coordination between peripheral health facilities and reference laboratories were repeatedly identified as barriers affecting continuity of HIV care [4]. Similar findings were reported in Malawi where limited laboratory infrastructure and weak diagnostic systems reduced effective follow-up among pregnant women enrolled in PMTCT services [16]. Comparable observations were also reported in Tanzania where delayed laboratory feedback contributed to interruptions in treatment monitoring and clinical decision-making among women receiving ART [18]. Studies conducted in Uganda also reported that delayed return of viral load results contributed to poor treatment monitoring and reduced retention in PMTCT care among pregnant women living with HIV [21]. According to the World Health Organization, timely viral load monitoring remains one of the most reliable indicators for evaluating treatment effectiveness and reducing the risk of HIV transmission from mother to child [2]. Delays in obtaining viral load results may therefore contribute to late identification of treatment failure and poor maternal and infant health outcomes.

The review further demonstrated that shortage of trained healthcare workers and high patient burden remain important barriers affecting PMTCT follow-up in Cameroon [3]. Several healthcare facilities continue to experience inadequate staffing, particularly within rural and underserved communities. Long waiting times, reduced consultation periods, and limited counseling opportunities discouraged some women from attending regular clinic visits for viral load monitoring and ART refill [11]. Similar findings were reported in Southern African PMTCT settings where shortage of healthcare workers reduced the quality of counseling, adherence support, and patient follow-up services offered to pregnant women receiving HIV care [17]. Comparable studies conducted in Ethiopia and Kenya also found that heavy workload among healthcare providers negatively affected continuity of HIV care and patient monitoring within PMTCT programs [12]. Research conducted in Zambia equally showed that overburdened healthcare systems contributed to missed appointments and interruptions in HIV follow-up among pregnant women receiving ART [22]. These findings suggest that strengthening human resources for health remains essential for improving viral load follow-up and retention in care among pregnant and breastfeeding women living with HIV.

Weak patient tracking and documentation systems also emerged as major barriers affecting continuity of care in Cameroon [9]. Poor coordination between maternal health clinics, HIV treatment services, and laboratory departments contributed to interrupted follow-up and delayed patient management among women enrolled in PMTCT programs. Similar findings were reported in Tanzania where weak follow-up systems increased the risk of treatment interruption during pregnancy and the postpartum period [18]. Studies conducted in South Africa also demonstrated that inadequate patient tracing systems contributed significantly to loss to follow-up among women receiving ART within PMTCT services [19]. Similar observations were reported in Mozambique where weak referral and documentation systems negatively affected continuity of PMTCT care among pregnant women living with HIV [23]. Effective patient tracking mechanisms remain important for identifying women who miss appointments and ensuring continuity of viral load monitoring throughout pregnancy and breastfeeding.

At the community level, HIV-related stigma remained one of the most consistently reported barriers affecting adherence and continuity of PMTCT services in Cameroon [6]. Fear of disclosure, discrimination, and social rejection discouraged many women from openly participating in HIV care programs or attending clinics regularly. Similar findings were reported in South Africa where stigma negatively affected adherence to ART among pregnant women living with HIV [19]. Comparable evidence from sub-Saharan Africa also identified stigma and fear of disclosure as important barriers affecting PMTCT uptake and retention in care [20]. In Uganda and Nigeria, studies similarly reported that women who feared negative reactions from partners and relatives were more likely to interrupt treatment or avoid clinic attendance [24, 25]. Research conducted in Côte d'Ivoire equally found that community discrimination and fear of disclosure significantly reduced retention in HIV care among pregnant women enrolled in PMTCT services [26]. Persistent HIV-related stigma therefore continues to undermine continuity of HIV care despite improvements in HIV awareness and availability of treatment services.

Low male partner involvement was another important issue identified in the reviewed studies. Women who lacked emotional, social, or financial support from partners were more likely to miss appointments and experience treatment interruption during pregnancy and breastfeeding [10]. Similar findings were reported in sub-Saharan African PMTCT programs where male partner involvement significantly improved adherence to treatment and continuity of HIV care [13]. Studies conducted in Kenya and Malawi equally demonstrated that women who received support from partners were more likely to maintain regular clinic attendance and complete recommended PMTCT follow-up schedules [5, 16]. Similar observations were reported in Rwanda where supportive male involvement improved adherence to ART and retention among women enrolled in PMTCT services [27]. Lack of partner support may therefore increase emotional stress and reduce women's ability to remain fully engaged in long-term HIV care.

Economic hardship and transportation difficulties also emerged as important structural barriers affecting viral load follow-up in Cameroon [9]. Women living in rural and remote communities often experienced difficulties accessing healthcare facilities because of long travel distances and transportation costs. Similar findings were documented in Kenya where geographical inaccessibility negatively affected continuity of HIV care among women enrolled in PMTCT services [12]. Comparable studies conducted in rural Ethiopia and Tanzania reported that repeated clinic visits created financial burdens for women receiving ART and contributed to

missed appointments and poor retention in care [16, 18]. Research from rural Malawi also demonstrated that poverty and transport limitations reduced clinic attendance and continuity of PMTCT follow-up among women living with HIV [28]. Poverty therefore continues to influence healthcare-seeking behavior and continuity of viral load monitoring among pregnant and breastfeeding women living with HIV.

The review also identified cultural beliefs and misconceptions regarding HIV treatment as barriers affecting adherence among some women in Cameroon [15]. In certain communities, misinformation regarding ART use during pregnancy and reliance on traditional medicine contributed to treatment interruption and inconsistent clinic attendance. Similar findings were reported in Ghana where traditional beliefs and alternative healing practices influenced treatment-seeking behavior among individuals living with chronic illnesses [1]. Comparable observations were equally reported in Nigeria where sociocultural beliefs affected adherence to HIV treatment among women enrolled in PMTCT programs [25]. Studies conducted in rural Uganda also found that misconceptions regarding HIV treatment contributed to inconsistent clinic attendance and poor adherence among pregnant women receiving ART [29]. These findings suggest that sociocultural realities remain important considerations in PMTCT implementation and continuity of HIV care within African settings.

Despite these challenges, the review strongly demonstrated the positive contribution of community-based support systems in improving PMTCT outcomes and viral load follow-up in Cameroon. Mentor mother programs were consistently associated with improved adherence, psychosocial support, and retention in care among pregnant and breastfeeding women living with HIV [7]. Similar findings were reported in Malawi where mentor mother interventions improved clinic attendance and adherence to ART among women enrolled in PMTCT services [16]. Community health workers and peer educators also contributed positively through home visits, appointment reminders, counseling, and tracing of women who missed scheduled clinic visits [5]. Comparable findings were reported in Zimbabwe where community support interventions strengthened continuity of HIV care and improved retention among women receiving ART [30]. Studies conducted in Kenya additionally found that peer support interventions improved adherence and encouraged continuity of PMTCT care among women receiving HIV treatment services [31]. These findings support the growing importance of community-centered approaches in strengthening PMTCT outcomes within resource-limited settings.

Community support groups were equally identified as important platforms for emotional support, health education, and experience sharing among women living with HIV. Participation in peer support groups helped reduce feelings of isolation and encouraged women to continue treatment during pregnancy and breastfeeding. Mobile phone reminders and follow-up calls were additionally identified as useful approaches for improving appointment adherence and continuity of HIV care [31]. Similar findings were reported in Kenya where mobile health interventions improved clinic attendance and retention among women receiving HIV treatment services [31]. These findings suggest that low-cost community-centered interventions may significantly improve continuity of viral load monitoring within PMTCT programs.

Another important finding from this review relates to the impact of insecurity and armed conflict on PMTCT follow-up in Cameroon. Conflict in the North West and South West Regions disrupted access to maternal and HIV healthcare services because of displacement, road insecurity, and temporary closure of health facilities [5]. Similar findings were reported

among conflict-affected populations in sub-Saharan Africa where insecurity negatively affected continuity of HIV care among pregnant and breastfeeding women living with HIV [14]. Women living in insecure communities were more likely to miss clinic appointments, interrupt treatment, and experience poor continuity of viral load monitoring. Insecurity also reduced the ability of healthcare workers and community support teams to conduct outreach activities, home visits, and patient follow-up within affected communities.

The findings from this review have important implications for HIV policy and PMTCT program implementation in Cameroon. Strengthening laboratory systems, improving viral load result turnaround time, increasing the number of trained healthcare workers, and strengthening patient tracking systems may improve continuity of care among pregnant and breastfeeding women living with HIV. Expanding mentor mother programs, community health worker follow-up, peer support interventions, and decentralized HIV services may further strengthen retention in care and improve adherence to ART within PMTCT programs.

This review also identified important research gaps within the Cameroonian context. There remains limited Cameroon-specific evidence directly examining viral load follow-up among pregnant and breastfeeding women living with HIV, particularly within conflict-affected regions. More implementation research is needed to evaluate the long-term effectiveness of community-based interventions on viral suppression outcomes, retention in care, and prevention of mother-to-child transmission of HIV in Cameroon. Future studies should additionally explore the role of digital health interventions, differentiated service delivery models, and decentralized HIV care approaches adapted to local realities within the country.

Overall, the reviewed evidence suggests that improving viral load follow-up within PMTCT programs in Cameroon requires both stronger healthcare systems and sustained community-based support mechanisms. Addressing health system weaknesses while strengthening psychosocial and community support interventions may contribute significantly to improved maternal HIV outcomes and reduction of mother-to-child transmission of HIV in Cameroon.

Conclusion

This narrative review has shown that viral load follow-up among pregnant and breastfeeding women living with HIV in Cameroon continues to be influenced by several interconnected health system, social, economic, and conflict-related challenges. Delayed laboratory result turnaround time, shortage of trained healthcare personnel, weak patient tracking systems, transportation difficulties, HIV-related stigma, poor male partner involvement, and insecurity within conflict-affected regions all contribute to interruptions in continuity of PMTCT care and viral load monitoring. These barriers reduce retention in care and may negatively affect viral suppression outcomes among women enrolled in PMTCT services.

Despite these challenges, the review further demonstrated that community-based support systems remain important facilitators of continuity of care within PMTCT programs in Cameroon. Mentor mother programs, peer support groups, community health worker follow-up, adherence counseling, home visits, and mobile reminder interventions were consistently associated with improved clinic attendance, adherence to antiretroviral therapy, and retention in care among pregnant and breastfeeding women living with HIV. These interventions strengthen the connection between health facilities and communities while providing psychosocial and practical support to women receiving HIV care.

The findings from this review highlight the need for stronger investments in laboratory infrastructure, healthcare workforce strengthening, patient follow-up systems, and decentralized viral load monitoring services in Cameroon. Greater integration of community-based interventions into PMTCT programs may also improve continuity of care and contribute to better maternal and infant health outcomes. Particular attention should be given to conflict-affected and underserved communities where interruptions in healthcare services remain common.

This review also identified important research gaps within the Cameroonian context. There remains limited evidence directly evaluating long-term viral load follow-up and the effectiveness of community-based support interventions among pregnant and breastfeeding women living with HIV in Cameroon. Future research should focus on implementation studies, digital follow-up systems, differentiated HIV service delivery models, and strategies adapted to the realities of healthcare delivery within both stable and conflict-affected settings.

Overall, improving viral load follow-up within PMTCT programs in Cameroon will require synchronized efforts involving healthcare providers, policymakers, community structures, development partners, and affected communities. Strengthening both health systems and community-based support mechanisms may contribute significantly to sustained viral suppression and reduction of mother-to-child transmission of HIV in Cameroon.

Conflict of Interest

The authors declares that there is no conflict of interest regarding the publication of this review article.

Acknowledgements

The authors sincerely acknowledges all researchers, institutions, and organizations whose published studies, reports, and scientific contributions provided valuable information for this narrative review. Special appreciation is extended to the Ministry of Public Health of Cameroon, the National AIDS Control Committee, the World Health Organization, UNAIDS, and other partners involved in strengthening HIV care and PMTCT services in Cameroon. The authors also appreciates healthcare providers, community health workers, mentor mothers, and all stakeholders contributing to the improvement of maternal HIV care and prevention of mother-to-child transmission programs within the country.

Ethical Approval

This study was conducted as a narrative review using information obtained from published scientific articles, reports, and publicly available documents. Since no human participants, patient records, or confidential information were directly involved in the study, ethical approval was not required.

Data Availability

The information used to support the findings of this review was obtained from published articles, institutional reports, and publicly accessible sources cited within the manuscript. All relevant data are therefore available within the article and its reference list.

Author Contributions

Egbe Derick Agbor conceived the study, carried out the literature search, synthesized the findings, and prepared the initial manuscript draft. Eyong Manyiyong Queenta contributed to the design of the review, critical revision of the manuscript, and overall academic supervision. Fietsop Ernestine Nkemta, Frida Bessem Taku Bate, and Eyong Bessemeyong Velda contributed to the interpretation of findings, manuscript review, and editing of the final version. All authors read and approved the final manuscript before submission.

Funding

This work did not receive any specific financial support from funding agencies, commercial organizations, or non-profit institutions.

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