

# Pre-exposure prophylaxis acceptability and use among adolescents in sub-Saharan Africa: Navigating barriers, beliefs, and decision-making

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## ABSTRACT

**Background:** Adolescents and young people in sub-Saharan Africa (SSA) face a disproportionate share of new HIV infections, yet engagement with effective biomedical prevention remains limited among this group. This scoping review aimed to map and synthesize existing evidence on the perceived acceptability, uptake, adherence, and continuation of oral pre-exposure prophylaxis (PrEP) among sexually active adolescents in SSA.

**Methods:** We searched PubMed/MEDLINE, Web of Science, Google Scholar, and relevant grey literature for studies published from 2015 to 2025. Eligible studies focused on PrEP acceptability, initiation, adherence, continuation, barriers, facilitators, and decision-making among sexually active adolescents aged 10-24 years in SSA countries. This review was guided by the Joanna Briggs Institute framework and reported following PRISMA-ScR guidelines. Data analysis was performed using thematic synthesis.

**Results:** Twenty studies met the inclusion criteria. PrEP acceptability was consistently high, especially among adolescent girls and young women. However, uptake, adherence, and continuation were moderate to low and declined over time. Main barriers included a lack of knowledge, HIV-related stigma, fear of disclosure, and health system limitations. Facilitators included perceived HIV susceptibility, supportive social environments, community-based and peer-led delivery methods, and a growing focus on discreet, long-acting PrEP options.

**Discussion:** There was notable gap between high PrEP acceptance and sustained use among sexually active adolescents in SSA. Adolescents' engagement with PrEP varied based on context and perceived risk of exposure.

**Conclusion:** These findings emphasize the importance of youth-friendly, stigma-free, and tailored PrEP delivery models to enhance consistent use among adolescents in SSA.

**Keywords:** pre-exposure prophylaxis, PrEP, adolescent, HIV infections, acceptability, use, sub-Saharan Africa

## INTRODUCTION

The human immunodeficiency virus (HIV) remains one of the most urgent public health issues in sub-Saharan Africa (SSA). Recently, adolescents and young adults aged 10-24 years have experienced the highest rates of new diagnoses, and new infections have placed a disproportionate burden on this age group [1]. The high rate of HIV infection among young people in SSA reflects the prevailing social, structural, and health system challenges that hinder the implementation of effective HIV prevention measures in this vulnerable population [2]. Among young people, adolescent girls and young women (AGYW) continue to be the most at risk [3]. This vulnerability is due to

persistent intersecting structural and social factors, such as gender inequality, poverty, limited educational opportunities, and unequal power dynamics in sexual relationships [4].

Several additional behavioral and contextual challenges further heighten the risk for sexually active adolescents. The existence of intergenerational sexual relations, transactional sex, stigma, and misinformation, along with a lack of accessible and adolescent-friendly sexual and reproductive health services, complicates issues faced by young people in SSA [5]. All of these factors together ultimately influence adolescents' likelihood of HIV exposure and their ability to access services to reduce such risk.

One of the biomedical strategies for HIV prevention is oral pre-exposure prophylaxis (PrEP), which involves using antiretroviral (ARV) medications, usually a combination of two drugs such as lamivudine and tenofovir or lamivudine and emtricitabine (TDF + 3TC or TDF + FTC), by HIV-negative individuals to prevent HIV infection. The World Health Organization (WHO) initially recommended daily oral PrEP as a prevention method for people at high risk of HIV in 2015 and continued to endorse oral PrEP as part of comprehensive HIV prevention strategies, with additional recommendations for alternative PrEP options like injectable long-acting agents.

Evidence shows that PrEP is an effective way to prevent HIV infection, as it significantly lowers the risk of acquiring HIV when taken consistently and as directed [6]. As a result, PrEP has been widely adopted in most SSA countries, focusing on adolescents and young people, who are considered at higher risk of infection [7]. Although evidence indicates that PrEP is available and effective, its adoption and consistent use among adolescents, especially those who are sexually active, remain challenging. The study in [8] showed declines in PrEP awareness, initiation, adherence, and continuation among adolescents and young adults. This evidence presents an opportunity to examine non-biomedical factors influencing PrEP use, particularly ongoing engagement with the method.

Because PrEP provides a prevention method that doesn't require cooperation from a sexual partner, it has been recommended as an intervention for high-risk adolescents and young adults to prevent HIV. However, its real-world effectiveness depends on the social context of adolescents and their perception of PrEP. Therefore, conducting a scoping review would help identify and map existing evidence on the acceptability, uptake, and continuation of PrEP among sexually active adolescents in SSA, clarify key concepts, and reveal gaps in the evidence.

### PrEP as a Key HIV Prevention Strategy

The introduction of PrEP is one of the most significant advances in HIV/acquired immunodeficiency syndrome (AIDS) prevention. PrEP effectively prevents the transmission of HIV from one person to another. For sexually active adolescents, PrEP offers an additional prevention option, expanding ways to control individual exposure to HIV. In SSA, where HIV incidence remains very high among youth, especially AGYW, there has been a strong effort to prioritize PrEP in national and regional HIV prevention strategies.

The effectiveness of PrEP depends not only on biomedical efficacy but also on real-world acceptability, uptake, and continued use. These factors are influenced by adolescents' beliefs and perceived HIV risk, social norms and stigma, as well as the surrounding health systems and policies [8]. Therefore, a scoping review allows a broader analysis of the literature on these factors and the methods used to study them.

### Rationale for Focusing on Sexually Active Adolescents

Sexually active adolescents face a higher risk of HIV infection compared to their non-sexually active peers. Factors that increase HIV risk include sexual behavior, partner relationship dynamics, power imbalances, inconsistent condom use, and a lack of sufficient information on sexual health, resources, and services [2]. Focusing on sexually active adolescents allows this review to target a group with urgent needs to prevent HIV transmission and risks [9]. Considering both perceived acceptability (such as attitudes, beliefs, and

willingness to use PrEP) and actual uptake or utilization (including initiation, adherence, and continuation of PrEP) is key to understanding the complexities of real-world engagement with PrEP [8].

Young people encounter distinct psychosocial challenges. The process of making decisions about HIV risk behavior is influenced by various psychosocial factors, including gender expectations, peer norms, family attitudes, stigma, concerns about confidentiality, and the availability of youth-friendly services [4].

### Knowledge Gap and Rationale for a Scoping Review

Research on PrEP knowledge, acceptability, and uptake among adolescents and young adults in SSA is growing; however, most studies combine different age groups and risk categories, making it difficult to analyze sexually active adolescents and identify their specific prevention needs [7, 10]. Most existing evidence focuses on a single aspect (e.g., awareness or acceptability) and is limited to adults aged 24 and older. Very few reviews include both perceived acceptability and uptake, and even fewer examine adolescents' decision-making processes regarding PrEP acceptability and uptake [4]. Although previous reviews have examined PrEP uptake in general populations, limited synthesis has focused specifically on adolescents in SSA, especially concerning decision-making processes and context-specific factors influencing sustained use. This review directly addresses this gap by synthesizing evidence on acceptability, uptake, continuation, and the contextual drivers shaping adolescent PrEP engagement.

### Aim and Objectives of the Review

This review aims to examine and evaluate the perceived acceptability, uptake, and continuity of PrEP among sexually active adolescents in SSA, focusing on beliefs, decision-making processes, facilitators, and barriers. The specific objectives of the study are to map the evidence of awareness and knowledge of PrEP, patterns of PrEP uptake and use, including initiation, adherence, and continuation, as well as to describe individual, social, structural, and health system factors that influence PrEP use, and to analyze decision-making processes related to PrEP uptake and use. The review also aims to identify gaps and explore implications of the findings for policy, practice, and research.

### Definition of Key Concepts

- PrEP: An oral ARV medication taken by HIV-negative individuals to prevent HIV infection.
- Sexually active adolescents and young people: Individuals aged 10-24 years who report engaging in sexual activities.
- Acceptability: Individuals' perceptions, attitudes, beliefs, and willingness to use PrEP.
- Uptake: This is the initiation of PrEP.
- Adherence: This involves consistent use.
- Continuation: refers to sustained long-term use.
- Barriers and facilitators: Personal, interpersonal, cultural, structural, or health system factors that can hinder or support the use of PrEP.
- Decision-making: The processes adolescents use to decide whether to start, continue, or stop PrEP.

**Table 1.** The PCC framework used for the review

PCC element	Description	Operational definition in this review
Population	Sexually active adolescents and young people	Adolescents and young people aged 10-24 years who report being sexually active, including AGYW, living in SSA.
Concept	Acceptability, uptake, and continuation of PrEP	Perceived acceptability (attitudes, beliefs, and willingness), as well as the uptake/initiation, adherence, continuation, and discontinuation of oral HIV PrEP, including barriers, facilitators, and decision-making processes.
Context	SSA	Studies conducted in SSA countries across community, facility-based, and hybrid service delivery settings, including youth-friendly, school-linked, and community-based HIV prevention programs.

**Table 2.** Database search and result

Database	Date	Keywords	Results
PubMed/Medline	22/12/2025	("Pre-Exposure Prophylaxis"[Mesh] OR "pre-exposure prophylaxis" OR PrEP) AND ("Adolescent"[Mesh] OR "Young Adult"[Mesh] OR adolescent* OR youth OR teenager* OR "young people" OR "adolescent girls and young women" OR AGYW) AND ("HIV Infections"[Mesh] OR HIV OR "HIV/AIDS") AND (acceptability OR uptake OR use OR initiation OR continuation OR adherence OR beliefs OR perceptions OR "decision-making") AND ("Africa South of the Sahara"[Mesh] OR "sub-Saharan Africa" OR SSA)	30
Web of Science	22/12/2025	Pre-Exposure Prophylaxis, PrEP, Adolescent, Youth, Teenager, HIV, HIV/AIDS, Acceptability, Uptake, Continuation, Beliefs, Decision-making, Perceptions, and Sub-Saharan Africa, SSA	23
Google Scholar	22/12/2025	("Pre-Exposure Prophylaxis" OR PrEP) AND (adolescent* OR youth OR teenager* OR "young people" OR "adolescent girls and young women" OR AGYW) AND (HIV OR "HIV/AIDS") AND (acceptability OR uptake OR initiation OR continuation OR adherence OR beliefs OR "decision-making" OR perceptions) AND ("sub-Saharan Africa" OR "Sub Saharan Africa" OR SSA)	11,400

## METHODOLOGY

### Study Design

This study was carried out as a scoping review guided by the Joanna Briggs Institute (JBI) methodological framework for Scoping Reviews and reported in accordance with the PRISMA extension for scoping reviews (PRISMA-ScR) [11, 12]. We chose a scoping review approach because we wanted to map the scope, nature, and features of existing research on the perceived acceptability and use of oral PrEP among sexually active adolescents in SSA. This approach also addresses the study area's complex, diverse, emerging, and undersynthesized nature.

### Eligibility Criteria

The eligibility criteria were aligned with the population, concept, and context (PCC) framework, which is recommended for scoping studies as shown in **Table 1**.

### Inclusion criteria and exclusion criteria

The review examined studies focusing on sexually active adolescents and young people (approximately 10-24 years old) from SSA that discussed PrEP and were published between 2015 and 2025. It also focused on one or more of the following concepts: PrEP awareness or knowledge, perceptions or beliefs, acceptability, uptake, adherence, and continuation; decision-making; barriers and facilitators (individual, social, structural, or health system); as well as study designs, including quantitative, qualitative, mixed-methods, policy reports, grey literature, and studies published in English. Studies were excluded if they involved only adults aged 24 or older, were conducted outside SSA, or were not published in English.

### Literature Search Strategy and Terms

The literature search included relevant, accessible peer-reviewed studies from several online databases, such as PubMed/MEDLINE, Web of Science, and Google Scholar. Additionally, the reference lists of relevant studies and key

reviews were manually examined for more relevant studies. Grey literature, including policy documents, was used when appropriate and available to identify relevant studies not listed in bibliographic databases. This method complies with scoping review standards and allows broad coverage of the literature on the topic. The search strategy employed a combination of controlled vocabulary (medical subject headings [MESH] in PubMed) and free-text keywords to improve sensitivity and capture both indexed studies and recent publications.

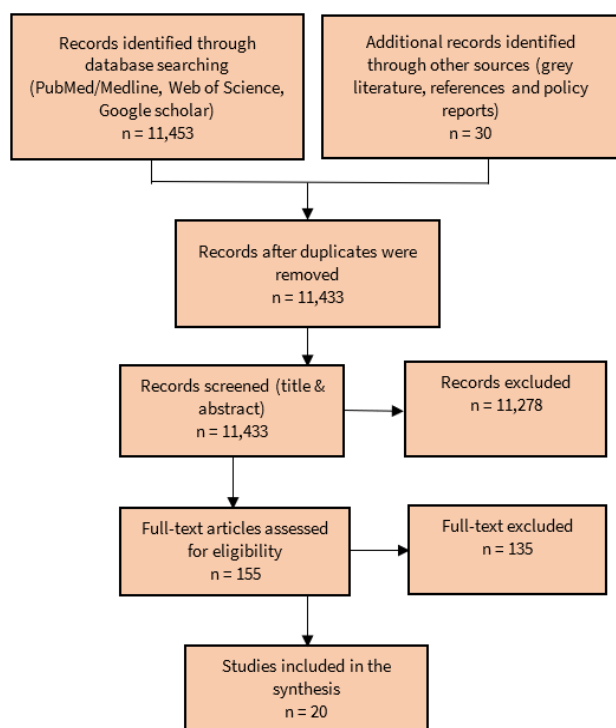
The following keywords were utilized: Pre-Exposure Prophylaxis, PrEP, Adolescent, Youth, Teenager, HIV, HIV/AIDS, Acceptability, Uptake, Continuation, Beliefs, Decision-making, Perceptions, and Sub-Saharan Africa, SSA. Boolean operators (AND, OR) were used to combine the terms. Results from the search were imported into the reference management software EndNote to assist with removing duplicates and streamlining the screening process. **Table 2** shows the database search and result.

### Study Selection

The selection of research studies was performed in multiple steps. Two independent reviewers screened titles and abstracts, followed by full-text review, with disagreements resolved through discussion and, if needed, consultation with a third reviewer. Studies that met the eligibility criteria and contained relevant data were selected for review. The study selection process is illustrated using a PRISMA-ScR flow diagram (**Figure 1**).

### Data Extraction and Synthesis

Data were collected using a structured charting form developed in accordance with the JBI guidelines. The data included study characteristics (author(s), publication date, geographic location, study type, sample size, age range, gender, and description of the study population), findings related to PrEP (awareness or knowledge, acceptability or perceptions, uptake or initiation, adherence or continuation, and barriers and facilitators), context (social, cultural, structural, and health system factors), and decision-making



**Figure 1.** PRISMA flow diagram for study selection (Source: Authors)

(elements that influenced the initiation, continuation, or discontinuation of PrEP).

The results are presented in **Table 3**. Data were analyzed using thematic synthesis, which involved coding the extracted data, grouping similar concepts, and developing overarching themes that reflect patterns across studies.

### Critical Appraisal of Included Studies

A critical appraisal was conducted using JBI tools to assess the quality of included studies. This is presented in **Table 4**.

## RESULTS

### Screening Results

Our database search identified 11,483 articles. 50 duplicates were removed, leaving 11,433 articles. After title and abstract screening, 11,278 studies were excluded, resulting in 155 articles for full-text review. A total of 135 studies were excluded after full-text screening, and 20 studies were included in the final synthesis. **Figure 1** shows the PRISMA flow diagram of the screening process.

**Table 3.** Table on top of a page

S/N	R	A (Y)	Country	Aim	SD	SP	AG	N	TI	Key outcomes
1	[3]	Nicholas et al. (2025)	Malawi	Identify barriers and facilitators to PrEP uptake	Qualitative	AGYW	15-24	20	Oral PrEP	Social and demographic factors (PrEP side effects, limited PrEP information, lack of privacy, stigma, and lack of transportation) influenced initiation.
2	[5]	Kayesu et al. (2022)	Uganda	Explore uptake and adherence experiences	Qualitative	AGYW at high risk	14-24	26	Oral PrEP	Uptake is hindered by stigma, pill burden, partner opposition, and fear of being labeled as HIV positive
3	[13]	Maseko et al. (2020)	Malawi	Explore perceptions of and interest in PrEP	Cross-sectional	AGYW	15-24	40	Oral PrEP	High interest in PrEP; concerns about stigma, side effects, and partner reaction
4	[14]	Lunkuse et al. (2022)	Uganda	Assess awareness of oral and injectable PrEP	Cross-sectional	High-risk AGYW	14-24	285	Oral & injectable PrEP	Low awareness of both modalities; high willingness to use PrEP after education
5	[15]	Gbaja-Biamila et al. (2024)	Nigeria	Examine awareness, willingness, and experiences with PrEP	Cross-sectional	Youth, male & female	14-24	324	Oral PrEP	Low awareness (~62.6% never heard); willingness moderate; use very low
6	[16]	Mwakilisa et al. (2025)	Tanzania	Explored barriers and facilitators for PrEP uptake	Qualitative	AGYW	15-24	52	Oral PrEP	Several barriers and facilitators were identified
7	[17]	Kampamba et al. (2025)	Zambia	Assess awareness and acceptability of LAI-PrEP	Cross-sectional	Female students	18-24	760	Long-acting injectable	Low awareness; moderate willingness to accept LAI-PrEP if it were made available to them. This is contingent upon improved education and awareness efforts.
8	[18]	Kakande et al. (2023)	South Africa, Uganda, & Zimbabwe	Explore adolescent boys and young men's PrEP uptake preference	Cross-sectional	Adolescent boys & young men	13-24	647	Oral PrEP	There was a high preference for on-demand PrEP among young males, especially those who plan sex in advance
9	[19]	Gill et al. (2020)	South Africa	Assess acceptability, safety, and use patterns	Clinical trial	Adolescents	15-19	148	Oral PrEP	High acceptability; declining adherence over time
10	[20]	Camlin et al. (2020)	Kenya & Uganda	Understand factors influencing uptake and continuation of PrEP	Qualitative	Adolescents and young adults	15-24	88	Oral PrEP	PrEP use is shaped by relationship changes, unsupportive partners/peers, or early side effects/pill burden.
11	[21]	Giovenco et al. (2018)	South Africa	Explore behavioral adjustments with PrEP	Qualitative	Adolescents	16-17	57	Oral PrEP	Episodic PrEP use based on perceived HIV risk
12	[22]	Mayanja et al. (2022)	Uganda	Examine preference, uptake, adherence, continuation	Cohort	AGYW	14-24	285	Oral PrEP	Uptake and adherence were low
13	[23]	Shamu et al. (2021)	South Africa	To understand young people's PrEP awareness, willingness, and preferences for roll-out.	Cross-sectional	Young men and women	18-24	1955	Oral PrEP	Low levels of PrEP awareness, but increased willingness to use PrEP following education
14	[24]	Ssemata et al. (2022)	Uganda, Zimbabwe, & South Africa	Assess the effect of PrEP on sexual behavior	Cross-sectional	Adolescents & youth	13-24	Not clearly stated	Oral PrEP	The potential for increased sexual-risk behaviours with the introduction of PrEP

**Table 3 (Continued).**

S/N	R	Author (year)	Country	Aim	SD	SP	AG	N	TI	Key outcomes
15	[25]	Velloza et al. (2023)	South Africa & Zimbabwe	To understand the impact of stigma and disclosure on PrEP adherence	Cohort	AGYW	16-24	67	Oral PrEP	Stigma was a barrier to disclosure and PrEP use at the initial stage. However, women became more comfortable disclosing PrEP to those around them over time.
16	[26]	Friedland et al. (2025)	South Africa, Uganda, Zimbabwe	Assess user preferences for the monthly PrEP ring over daily oral PrEP	RCT	AGYW	16-21	247	Monthly Dapivirine Vaginal PrEP Rings	The PrEP ring was highly acceptable to more participants than oral PrEP, and sustained use was still higher with the ring than with Oral PrEP.
17	[27]	Munthali et al. (2022)	South Africa & Tanzania	Examined factors associated with PrEP use stigma	Cross-sectional	AGYW	16-24	307	Oral PrEP	Stigma and anticipated disapproval of PrEP use emerged as significant barriers to PrEP initiation; however, disclosure of planned PrEP use to a sexual partner reduced stigma.
18	[28]	Giovenco et al. (2023)	South Africa	Examined oral PrEP interest among adolescents and its association with perceived parental support and PrEP stigma	Cross-sectional	Male & Female Adolescents	14-16	879	Oral PrEP	Willingness to use PrEP with parental support
19	[29]	Jackson-Gibson et al. (2021)	Kenya	Assess facilitators and barriers to PrEP	Mixed-methods (intervention-based)	AGYW	16-24	40	Community-based PrEP	Peer and family support improved uptake
20	[30]	Lavoie et al. (2023)	Botswana	Assess peer-led mHealth PrEP services	Pilot intervention study	AGYW	18-24	131	mHealth-supported PrEP	Improved engagement

Note. R: Reference; A (Y): Author (year); SD: Study design; SP: Study population; AG: Age group; N: Number of participants; TI: Type of intervention

**Table 4. Quality appraisal of included studies**

S/N	R	A (Y)	Study design	JBI tool used	Score	Quality	Comments
1	[3]	Nicholas et al. (2025)	Qualitative	JBI qualitative checklist	8/10	High	Clear methodology, strong data analysis; minor limitation in reflexivity
2	[5]	Kayesu et al. (2022)	Qualitative	JBI qualitative checklist	9/10	High	Robust design, good participant representation; strong credibility
3	[13]	Maseko et al. (2020)	Cross-sectional	JBI analytical cross-sectional	7/8	High	Well-defined variables; minor risk of self-report bias
4	[14]	Lunkuse et al. (2022)	Cross-sectional	JBI analytical cross-sectional	7/8	High	Adequate sampling and analysis; limited generalizability
5	[15]	Gbaja-Biamila et al. (2024)	Cross-sectional	JBI analytical cross-sectional	7/8	High	Good methodological rigor; potential recall bias
6	[16]	Mwakilasa et al. (2025)	Qualitative	JBI qualitative checklist	9/10	High	Excellent depth; strong trustworthiness
7	[17]	Kampamba et al. (2025)	Cross-sectional	JBI analytical cross-sectional	7/8	High	Multi-center strength; limited causal inference
8	[18]	Kakande et al. (2023)	Cross-sectional	JBI analytical cross-sectional	7/8	High	Strong regional coverage; self-reported data limitation
9	[19]	Gill et al. (2020)	Clinical trial (single-arm)	JBI quasi-experimental	8/9	High	Strong design; lacks control group
10	[20]	Camlin et al. (2020)	Qualitative	JBI qualitative checklist	8/10	High	Rich contextual insights; limited transferability
11	[21]	Giovenco et al. (2018)	Qualitative	JBI qualitative checklist	7/10	Moderate	Good thematic analysis; limited methodological detail
12	[22]	Mayanja et al. (2022)	Cohort (prospective)	JBI cohort checklist	9/11	High	Strong longitudinal design; minor attrition bias
13	[23]	Shamu et al. (2021)	Cross-sectional	JBI analytical cross-sectional	6/8	Moderate	Some confounding factors not fully addressed
14	[24]	Ssemata et al. (2022)	Cross-sectional	JBI analytical cross-sectional	6/8	Moderate	Limited control of confounders
15	[25]	Velloza et al. (2023)	Cohort	JBI cohort checklist	9/11	High	Valid measurement tools; good statistical analysis
16	[26]	Friedland et al. (2025)	RCT	JBI RCT checklist	11/13	High	Strong design; high internal validity
17	[27]	Munthali et al. (2022)	Cross-sectional	JBI analytical cross-sectional	7/8	High	Strong stigma measurement; minor bias risk
18	[28]	Giovenco et al. (2023)	Cross-sectional	JBI analytical cross-sectional	7/8	High	Good analytical approach; limited causal inference
19	[29]	Jackson-Gibson et al. (2021)	Mixed-methods (intervention-based)	JBI quasi-experimental	8/9	High	Strong intervention context; minor selection bias
20	[30]	Lavoie et al. (2023)	Intervention study	JBI quasi-experimental	7/9	Moderate	Small sample size; feasibility focus

Note. R: Reference; A (Y): Author (year); Studies were appraised using appropriate JBI critical appraisal tools based on study design; Scores were categorized as high quality ( $\geq 70\%$ ), moderate quality (50-69%), and low quality ( $< 50\%$ ); Most included studies were of high methodological quality, with only a few rated as moderate due to limitations such as self-reported data, potential confounding, and limited generalizability

### Characteristics of Included Studies

The diversity of studies in this review included qualitative studies (5), quantitative studies: cross-sectional (9), cohort (2), randomized controlled trials (2), mixed-methods (1), and intervention study (1).

Most studies focused on AGYW aged 15-24 years, with a few exploring both genders, and fewer examining only males. No study targeted younger adolescents aged 10-14 years. Of the included studies, four were conducted in South Africa [17, 18, 20, 27], three in Uganda [5, 14, 22], two in Malawi [3, 13], one in Kenya [28], one in Botswana [29], one in Zambia [16], one in Tanzania [26], one in Nigeria [15], and six were multi-country

studies [19, 21, 23-25, 30]. All studies were published between 2015 and 2025. The findings were organized into thematic categories covering factors affecting awareness, acceptability, uptake, adherence, and continuation of PrEP. **Table 3** presents the characteristics of included studies.

### Quality Appraisal of Included Studies

The methodological quality of the included studies was assessed using JBI critical appraisal tools [11, 12]. Several studies met most of the quality criteria, demonstrating robust methodologies, clearly defined populations, and appropriate data collection and analysis procedures. The methodological quality of the included studies was generally high, with 16 studies rated high quality and 4 rated moderate quality. None was rated low quality. Qualitative studies showed strong credibility and depth of analysis, although a few lacked detailed reporting on researcher reflexivity. Cross-sectional studies were generally of high quality but were limited by reliance on self-reported data and potential confounding factors. The cohort and trial studies demonstrated strong internal validity, particularly in their longitudinal follow-up and outcome measurement. Overall, only a small number of studies were rated as moderate quality, primarily due to issues related to generalizability, selection bias, and limited control of confounders. No studies were excluded based on quality appraisal. This is presented in **Table 4**.

### Thematic Findings

#### Knowledge and awareness of PrEP

The studies reviewed showed varying levels of awareness of oral PrEP across study settings. In facility-based studies conducted within family planning and DREAMS programs in South Africa and Kenya, high levels of awareness were reported. However, several studies revealed a lack of understanding about PrEP's purpose, eligibility, the medication and dosage, and its effectiveness [13-15]. Participants often described PrEP as "HIV drugs," and multiple studies documented confusion between PrEP and HIV treatment ARV therapy, with some referring to PrEP as "HIV medication" instead of preventive medication [16].

Participants in studies conducted in Uganda, Zambia, and Malawi consistently reported low awareness of oral PrEP (23.2%) and newer PrEP options, including long-acting injectable PrEP and other emerging modalities (3.9%) [17]. This limited awareness of newer prevention options has also been highlighted in recent multi-country studies, which show that adolescents often lack exposure to information on emerging PrEP modalities beyond oral formulations [18].

#### Acceptability and uptake of PrEP

Across numerous studies, oral PrEP was shown to have high levels of acceptability, especially when presented as a prevention method that can be used without male partner involvement [19]. Adolescents felt that PrEP offered them protection, control, and comfort, particularly in situations where they believed their partner was a risk and they could not negotiate condom use [20, 21]. However, some acceptability depended on factors like potential side effects, pill burden, daily dosing, and social visibility of taking the medication [5, 22]. Research conducted in South Africa, Uganda, and Malawi revealed that several AGYW stopped taking PrEP only a few weeks after starting because of side effects such as nausea, dizziness, and anxiety about the possible health impacts [3].

Evidence showed moderate to high level of acceptance of PrEP among adolescents; however, uptake remained low to moderate across most settings, with initial enthusiasm often followed by limited initiation [23]. The gendered nature of PrEP awareness was also demonstrated, as more women had knowledge of PrEP than men, likely reflecting targeted HIV prevention interventions. Greater uptake was observed in community-based, same-day initiation models than in standard facility-based delivery or referral models.

Importantly, preferences for PrEP delivery strongly affected acceptability. A multi-country study found that adolescent boys and young men showed diverse preferences for oral PrEP dosing, including interest in non-daily regimens, emphasizing the need for flexible delivery options. Most factors linked to PrEP initiation included perceived HIV risk, recent sexual activity, multiple sexual partners, transactional sex, commercial sex work, and uncertainty about a partner's HIV status. Conversely, periods of sexual inactivity and low perceived risk were often reasons cited for declining to start PrEP [24].

#### Adherence and continuation

Studies showed significant variability in adherence to daily oral PrEP. Prospective cohort studies revealed a decline in adherence over time, especially after the first three to six months of use [22]. Some studies indicate that participants' reports of adherence often conflict with study measurements of drug levels, showing missed PrEP doses [19]. Continuation of PrEP was strongly linked to changes in relationship status, geographic mobility, shifts in schooling, and pregnancy. Some studies reported episodic PrEP use, describing how AGYW started, stopped, and resumed PrEP based on their own assessment of HIV risk levels. The study in [25] in Uganda found that low perceived HIV risk kept most adolescents from using and adhering to PrEP.

Emerging evidence indicated that product features also affected adherence. Long-acting options, like the dapivirine vaginal ring, showed greater acceptability compared to daily oral PrEP among AGYW, indicating possible improvements in consistent use.

#### Stigma and disclosure

Stigma related to HIV was a common issue across multiple studies. AGYW explained that fears of being considered HIV-positive or seen as promiscuous or sexually active were barriers to starting and continuing PrEP [25]. Recent evidence further emphasized that stigma was not only interpersonal but also structural. High levels of PrEP-related stigma was reported among AGYW in urban African settings, where fear of judgment, discrimination, and social labeling significantly reduced uptake and continued use [27]. Mixed results were found regarding disclosing PrEP use to partners and families. The study in [16] found that disclosure led to support and reminders that facilitated adherence, whereas negative reactions to disclosure led to the use of concealment strategies and discontinuation.

#### Adolescents decision-making process

Evidence showed that some adolescents initially expressed interest but declined PrEP because they felt "too young," had fear of stigma, or mistrusted the services provided. The process of making decisions about PrEP among adolescents was generally complex and depended on the interaction of risk

perception, personal beliefs, parental influence, structural barriers, and healthcare access. For those who started PrEP, continuation often relied on supportive environments from families and friends, access to youth-friendly and appealing services, social support, reminders, and a perceived ongoing risk [5]. Decisions to initiate, continue, or stop PrEP were often influenced by changes in perceived risk (e.g., partner status changes), life events (such as school or relocation), and social factors (such as partner or family disapproval/rejection, stigma).

### **Family, partner, and parental influences**

Parents' and caregivers' attitudes were especially influential, particularly among younger adolescents. Studies in Zimbabwe, South Africa, and Kenya revealed conflicting parental views on the use of PrEP, with some supporting HIV prevention and others opposing it due to moral or cultural reasons [28]. Male partners affected women's PrEP use by being supportive, unsupportive, or indifferent. Some women cited avoiding jealousy and conflict in the relationship as reasons for not disclosing their PrEP use or discontinuing it.

### **Health system and service delivery factors**

Several studies have documented how service delivery influences PrEP participation. Barriers such as long wait times, lack of privacy, stock-outs, and negative attitudes among service providers were identified as factors that affected PrEP use [29]. Higher levels of engagement and satisfaction were associated with integrated, youth-friendly, community-based, and peer-delivered service models [30]. Mobile health (mHealth) and digital interventions were viewed as acceptable and feasible by most participants, especially for appointment reminders, adherence support, and peer engagement.

### **Preferences for newer and emerging PrEP modalities**

There is a growing body of research examining customer preferences and service delivery within the PrEP continuum of care. Most participants expressed a desire for alternatives to daily oral PrEP pills and showed a preference for long-acting injectable PrEP and a PrEP ring [17]. This preference was motivated by convenience, discretion, and a lower adherence burden. Recent trial evidence indicated that long-acting options, like the dapivirine ring, were more acceptable than daily oral PrEP among AGYW [26].

However, awareness of these newer modalities remained limited, and issues regarding accessibility, service delivery, and cost continue.

### **Summary of Findings**

Overall, studies showed varying levels of access, high acceptability, but inconsistent use, adherence, and continuation of PrEP among adolescents in SSA. The findings highlight the important influence of stigma, perceived risk, family and partner relationships, and health system factors on PrEP outcomes.

Additionally, emerging evidence underscores the importance of aligning PrEP delivery with user preferences, particularly through flexible dosing strategies and long-acting prevention options, which could boost uptake and sustained use.

## **DISCUSSION**

### **Overview of PrEP Acceptability and Use**

This scoping review synthesized evidence on the acceptability and use of PrEP among adolescents in SSA. While acceptability was generally high, uptake and sustained use remained suboptimal. Many studies reported a strong willingness to start PrEP; however, adherence challenges, discontinuation, and inconsistent use were common. Key factors influencing these trends included stigma, low perceived HIV risk, limited youth-friendly services, and structural barriers such as access and cost.

These findings align with evidence from low- and middle-income countries, where willingness to start PrEP was high but adherence remained low due to stigma, low risk perception, and structural barriers [31, 32]. Only about 64% of adolescents and young adults maintained proper adherence, highlighting challenges with long-term use [4]. Addressing this gap requires integrated, youth-friendly services and efforts to reduce stigma. Digital adherence strategies showed modest improvements but are still insufficient as standalone solutions [33].

### **Multi-Level Barriers to PrEP Uptake and Adherence**

The gap between acceptability and continued use reflects multiple overlapping factors. At the individual level, low perceived HIV risk and concerns about side effects reduce motivation [20, 25, 31]. Interpersonally, stigma related to HIV and assumptions of promiscuity discourage disclosure and adherence [27, 28]. Barriers within the health system include limited adolescent-friendly services, privacy concerns, and negative attitudes from providers [3, 5, 29]. Structural barriers such as transportation costs and limited clinic access further contribute to discontinuation [4, 7, 10]. These findings highlight that PrEP use is influenced by social and structural factors, not solely by medical considerations.

### **Knowledge Gaps and the Awareness Paradox**

Some adolescents have a limited understanding of PrEP, confuse it with HIV treatment, are unsure about eligibility, and lack awareness of non-oral options [12]. This reflects the awareness paradox in low-resource settings, where awareness was relatively high but understanding and intent to use remained low [23]. Limited knowledge of newer methods, such as long-acting injectables, highlights a gap between biomedical advances and community dissemination [16].

### **Cultural and Social Norms**

Cultural beliefs about adolescent sexuality and stigma surrounding premarital sex hinder PrEP uptake [29]. Religious and cultural norms serve as silent barriers, especially where discussions about adolescent sexual health are taboo. Fear of judgment, gossip, or moral condemnation continues to restrict PrEP use, particularly among unmarried adolescents.

### **Acceptability, Uptake Gap, and Use Patterns**

A consistent finding was the gap between high acceptability and low-to-moderate uptake. Adolescents often saw PrEP as empowering and protective, especially when they lacked control over sexual decisions [19]. However, acceptability depended on conditions, with side effects, pill burden, and stigma reducing initiation and continuation [3].

PrEP use was often episodic, based on perceived risk rather than ongoing use. For example, some adolescents preferred on-demand use, reflecting changing perceptions of HIV risk [18].

### Stigma, Disclosure, and Social Dynamics

HIV-related stigma continues to be a significant barrier to starting and maintaining PrEP. Fear of being perceived as HIV-positive or promiscuous leads some adolescents to hide or avoid taking PrEP [27]. Disclosure has mixed outcomes: support from trusted individuals can enhance adherence, but negative reactions from partners or family may cause hiding or stopping PrEP [25]. These findings highlight how social context and gendered perspectives influence PrEP use.

### Role of Parents, Caregivers, and Partners

Parents and caregivers greatly influence younger adolescents' choices. Both supportive and restrictive attitudes show tensions between HIV prevention efforts and concerns about promoting sexual activity [28]. A lack of parental support can lower interest in PrEP. Male partners also impact decisions, with expected opposition and mistrust affecting disclosure and ongoing use, thereby reinforcing gender power dynamics in sexual health decision-making.

### Health System and Service Delivery Factors

Facility-level barriers, such as long wait times, lack of privacy, provider stigma, and stock-outs, reduce willingness to initiate or continue PrEP [29]. Conversely, community-based, peer-led, and youth-friendly services are linked to higher uptake and satisfaction. Digital health interventions show promise in supporting adherence, though access to technology remains a limitation in many settings [30].

### Preferences for Alternative PrEP Modalities

Adolescents prefer discreet, low-burden options like long-acting injectables and the Dapivirine Vaginal Ring over daily oral PrEP [17, 26]. These choices improve privacy and independence. However, concerns about injections, clinic access, and costs underscore the need for a careful rollout to prevent widening existing disparities.

### Implications for Policy and Practice

Addressing these gaps requires multi-level strategies. Integrating PrEP into youth-friendly services is essential for improving access and acceptability. Stigma-reduction efforts, including community awareness and peer-led approaches, are critical. Expanding access to long-acting PrEP options may improve adherence, while community-based and differentiated service delivery models can enhance reach and retention. Digital health tools offer additional support but require further evaluation to assess long-term effectiveness.

### Limitations of the Review

This review has several limitations. First, there may be publication bias because studies were limited to those published in English. Second, the geographic representation across SSA was uneven. Third, the included studies differed in design and methodological rigor, which could affect the comparability of their results.

## CONCLUSION

This scoping review aimed to map and synthesize evidence about the acceptability, uptake, adherence, and continuation of PrEP among sexually active adolescents in SSA. Due to the diversity of study designs, populations, and contexts, as well as the rapidly evolving nature of PrEP implementation, a scoping review effectively illustrated the extent of available evidence, clarified key concepts, and identified research gaps. The review included qualitative, quantitative, mixed-methods, clinical trials, and grey literature from 2015-2025, capturing the period of most rapid PrEP research focused on adolescents. The evidence suggests that in most SSA countries, adolescents, especially AGYW generally accepted PrEP. However, high acceptance does not necessarily mean they become long-term PrEP users. Several studies reported fluctuating awareness, intermittent initiation, episodic use, and declining adherence over time. There was limited evidence regarding PrEP continuation. The evidence highlighted various factors that influenced adolescents' PrEP use, including individual-level factors (knowledge, perceived risk), interpersonal factors (partners, parents, peers), community-level influences (stigma, norms), and structural factors (service delivery models, provider attitudes, healthcare access). Notably, recent studies increasingly depicted PrEP use as dynamic and context-dependent, with adolescents initiating and discontinuing based on their changing perceptions of HIV risk.

### Future Directions in Research, Policy, and Recommendation

The identified evidence gaps emphasize the need for further research, including longitudinal and mixed-methods studies, especially those exploring how adolescents' perceptions of HIV risk and PrEP use patterns evolve. Future studies should also focus on including underrepresented adolescent sub-populations, such as adolescent boys and young males, individuals not involved in formal healthcare systems, and adolescents aged 10-14 years. They should expand to investigate long-acting PrEP and other innovative approaches for adolescents, like assessing feasibility, acceptability, and access. Additionally, research should explore the roles of parents and caregivers, as well as the legal age of consent, in shaping adolescents' decisions to use PrEP.

The evidence presented in this review highlights the importance of integrating adolescent PrEP services into the broader spectrum of sexual and reproductive health, rather than treating them as standalone interventions. Youth-friendly service options, such as community-based and peer-led programs, as well as inclusion in contraceptive services, tend to enhance program engagement. The evidence also underscores the need for PrEP services to be closely linked to adolescents' real-life experiences, including their educational status, mobility, relationships, and stigma. Policies that facilitate easier access to PrEP for adolescents, especially those that ensure confidentiality and provide flexible, structural options, may be more effective in helping adolescents remain engaged over the long term.

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