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A systematic review of barriers and facilitators to voluntary counselling and testing for HIV among young people in Ghana

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Abstract

Background HIV testing uptake among young people in Ghana remains low despite increased awareness. Existing evidence on factors influencing voluntary counselling and testing (VCT) is scattered. This review synthesises key barriers and facilitators to inform targeted prevention strategies.

Methods Aromataris and Pearson's framework and PRISMA guidelines guided the review. Studies published between 2000 and November 2025 were sourced from major databases and grey literature. Eligible studies examined determinants of VCT among young people in Ghana, and quality was assessed using standard appraisal tools.

Results Eight studies met inclusion criteria. Barriers included fear and stigma, low perceived risk, social discouragement, and service-level constraints. Facilitators included accessible and youth-friendly services, personal motivation, supportive social networks, community and faith-based engagement, confidence in care, and protective sexual behaviours. Four studies had low risk of bias and four had moderate risk.

Conclusion VCT uptake among Ghanaian youth is shaped by psychosocial, social, and structural factors. Enhancing youth-friendly services, strengthening social support, and improving risk perception can improve HIV testing uptake.

Keywords HIV, Voluntary counselling and testing, Youth, Ghana, Barriers, Facilitators

1 Introduction

Human Immunodeficiency Virus (HIV) remains one of the most persistent global health challenges [1]. Despite significant progress in prevention and treatment, millions of people continue to be affected each year. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), an estimated 40.8 million people were living with HIV globally in 2024, with about 1.3 million new infections recorded in the same year [2]. The widespread availability of antiretroviral therapy (ART) has transformed HIV into a manageable chronic condition [3], yet many individuals remain unaware of their HIV status [4]. Early diagnosis is essential for the timely initiation of treatment and prevention

of further transmission. The World Health Organisation (WHO) identifies voluntary counselling and testing (VCT) as a key entry point to HIV prevention and care [2, 5]. However, despite expanded testing programs across the world, approximately 5.3 million people did not know their HIV status in 2024 [2]. This persistent testing gap threatens global progress toward the UNAIDS 95–95–95 targets, which aim to ensure that 95% of all people living with HIV are diagnosed, 95% of those diagnosed receive sustained treatment, and 95% of those on treatment achieve viral suppression by 2030 [2]. Beyond its clinical implications, HIV continues to carry deep social and psychological consequences that affect individuals, families, and communities.

Sub-Saharan Africa (SSA) continues to bear the greatest burden of the epidemic, accounting for more than 60% of people living with HIV globally [6]. Although ART coverage has improved substantially across the region, testing uptake remains low, particularly among young people [7]. The WHO defines young people as individuals aged 10 to 24 years [1]. This age group faces distinct vulnerabilities that increase their risk of HIV infection, including early sexual debut and limited access to accurate sexual health information. Studies from countries like Uganda, South Africa and Zambia have consistently shown that fear of stigma, fear of judgement, concerns about confidentiality, and the absence of youth-friendly services discourage HIV testing among young people [8–10]. These challenges collectively contribute to low testing rates despite improved awareness and the availability of HIV services. In Ghana, HIV remains a significant public health concern. The 2023 National HIV Estimates Report indicated an adult prevalence rate of approximately 1.7% among individuals aged 15 to 49 years, with young people accounting for a substantial proportion of new infections [11]. Although awareness of HIV transmission and prevention is relatively high, testing coverage among young people remains low [12]. The gap between awareness and testing reflects broader social, cultural, and structural barriers that continue to shape health-seeking behaviour among Ghana's youth.

VCT plays an essential role in both HIV prevention and management. It enables individuals to learn their HIV status, receive pre- and post-test counselling, and make informed health decisions. Evidence from various studies indicates that VCT uptake is influenced by several individual, social, and structural factors. At the individual level, perceived risk, knowledge about HIV, and risky sexual behaviour are key determinants [13, 14]. Social factors such as stigma, peer influence, and partner or family support also influence testing behaviour [15, 16]. At the structural level, accessibility and affordability of services, and integration of testing into routine healthcare are significant determinants [17].

Although several studies in sub-Saharan Africa have explored factors influencing HIV testing, few have focused specifically on young people in Ghana. Most existing reviews examine adults or general populations [17–19], leaving a gap in understanding the unique barriers and facilitators affecting those aged 10 to 24 years. This age group represents a critical population for HIV prevention and control, as early testing can help interrupt transmission chains and improve long-term health outcomes. Understanding what enables or prevents young people from testing for HIV is therefore essential to inform effective and context-specific interventions. This systematic review aims to identify, analyse, and synthesise existing evidence on the barriers and facilitators to voluntary counselling and testing for HIV among young people in Ghana. By consolidating

findings from existing studies, the review seeks to provide insights that can guide public health policy, inform targeted interventions, and support Ghana's efforts to achieve its national HIV targets. The findings will also contribute to regional and global discussions on strengthening youth-focused HIV prevention strategies in similar low- and middle-income contexts.

2 Method

2.1 Study design

This systematic review was guided by the methodological framework proposed by Aromataris and Pearson [20], as recommended by the Joanna Briggs Institute (JBI) for systematic reviews. The process comprised several key stages including (1) formulating a well-defined aim and research question, (2) specifying a detailed inclusion and exclusion criteria, (3) constructing a comprehensive search strategy, (4) critically appraising the quality of eligible studies, (5) extracting and analysing relevant data, (6) synthesizing and presenting the findings, and (7) providing a transparent account of the procedures followed. Additionally, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines guided the documentation and presentation of both the review process and its outcomes. The review protocol was registered with OSF (https://doi.org/10.17605/OSF.IO/NHZCR), the International Prospective Register of Systematic Reviews, to prevent duplication and support research transparency.

2.2 Research question

The main review question was:

1. What are the barriers and facilitators to voluntary counselling and testing (VCT) for HIV among young people in Ghana?

This question was formulated using the Population, Concept, Context (PCC) framework, which helped clearly define the Population (young people aged 10–24 years), the Concept (barriers and facilitators to VCT), and the Context (Ghana). While PCC is often applied in scoping reviews, it was used here to provide a structured approach for identifying and selecting relevant studies. This helped ensure transparency and comprehensiveness in capturing evidence across multiple study designs.

2.3 Inclusion and exclusion criteria

The inclusion and exclusion criteria were formulated based on the PCC framework. See Table 1 for detailed inclusion and exclusion criteria.

Table 1 Eligibility criteria

Inclusion criteria	Exclusion criteria
Ghanaian studies assessing determinants, predictors, or correlates of voluntary counselling and testing for HIV among young people, aged 10–24 years, in line with the WHO definition of young people.	Studies with participants extending from young people (10–24 years) to adults, or those not disaggregated by age.
Peer-reviewed journal articles and grey literature published from January 2000 and later.	Preprints, case reports, reviews, letters to editors, conference papers, seminar papers and editorials.

2.4 Search strategy

A systematic search of the literature was carried out to fully address the review question. Four primary databases were used. They are PubMed Central, CINAHL, Web of Science and Scopus. A chartered librarian from the Sam Jonah Library supported the process by helping to develop a search strategy that combined Medical Subject Headings with relevant keywords. This approach was intended to maximise retrieval while maintaining conceptual precision. The search strategy combined terms related to voluntary counselling and testing (VCT), young people, and conceptual constructs reflecting enabling and constraining influences on uptake. Specifically, the search incorporated the terms "barrier" and "facilitator" to align with the conceptual framing of the review. Although these terms were included within the search string, eligibility during screening was not limited to studies explicitly using this terminology. Studies examining factors, determinants, correlates, or predictors of VCT uptake were considered for inclusion where they addressed influences on testing behavior among young people. The search strategies used in each database are presented in Table 2. The first search was conducted in PubMed Central, after which the strategy was adjusted to suit the other databases. The search covered studies published between January 2000 and November 2025. To ensure that no relevant work was missed, additional searches were done in Google Scholar, Google, ProQuest and institutional repositories. Reference lists of all included full-text articles were also checked to identify any further eligible studies. The final search was completed on 28 November 2025. Table 2 and Appendix 4 show full search strategy.

Table 2 Search strategy

Database	Search strategy
PubMed Central	("barrier"[All Fields] OR "barrier s"[All Fields] OR "barriers"[All Fields]) AND ("facilitate"[All Fields] OR "facilitated"[All Fields] OR "facilitates"[All Fields] OR "facilitating"[All Fields] OR "facilitation"[All Fields] OR "facilitations"[All Fields] OR "facilitative"[All Fields] OR "facilitator"[All Fields] OR "facilitator s"[All Fields] OR "facilitators"[All Fields]) AND (("voluntaries"[All Fields] OR "voluntary"[All Fields]) AND ("counsel"[All Fields] OR "counselled"[All Fields] OR "counselling"[All Fields] OR "counselled"[All Fields] OR "counselling"[All Fields] OR "counselling"[MeSH Terms] OR "counselling"[All Fields] OR "counselling"[All Fields] OR "counsels"[All Fields]) AND ("test s"[All Fields] OR "tested"[All Fields] OR "testing"[All Fields] OR "testings"[All Fields] OR "tests"[All Fields])) AND ("hiv"[MeSH Terms] OR "hiv"[All Fields]) AND (("young"[All Fields] OR "youngs"[All Fields]) AND ("people s"[All Fields] OR "peopled"[All Fields] OR "peopling"[All Fields] OR "persons"[MeSH Terms] OR "persons"[All Fields] OR "people"[All Fields] OR "peoples"[All Fields])) AND ("ghana"[MeSH Terms] OR "ghana"[All Fields] OR "ghana s"[All Fields]) AND (published_article[Filter]) AND (2000/1/1:2025/11/28[pdat])
Scopus	TITLE-ABS-KEY ((barrier OR barriers) AND (facilitate OR facilitated OR facilitates OR facilitating OR facilitation OR facilitations OR facilitative OR facilitator OR facilitators) AND (voluntary AND (counsel OR counselled OR counselling OR counselled OR counselling OR counselling OR counsels) AND (test OR tested OR testing OR tests)) AND (hiv) AND (young AND (people OR persons)) AND (ghana))
CINAHL	((barrier OR barriers) AND (facilitate OR facilitated OR facilitates OR facilitating OR facilitation OR facilitations OR facilitative OR facilitator OR facilitators) AND (voluntary AND (counsel OR counselled OR counselling OR counselled OR counselling OR counselling OR counsels) AND (test OR tested OR testing OR tests)) AND hiv AND (young AND (people OR persons)) AND ghana)
Web of Science	TS=((barrier OR barriers) AND (facilitate OR facilitated OR facilitates OR facilitating OR facilitation OR facilitations OR facilitative OR facilitator OR facilitators) AND (voluntary AND (counsel OR counselled OR counselling OR counselled OR counselling OR counselling OR counsels) AND (test OR tested OR testing OR tests)) AND hiv AND (young AND (people OR persons)) AND ghana)

2.5 Study selection

The study selection process was done in three sequential stages. In the first stage, duplicate entries were identified and eliminated using Mendeley reference management software, into which all records retrieved from the different databases were imported. The second stage involved screening the remaining titles and abstracts against the predetermined inclusion criteria (refer to Table 1). This step was performed by a group of eleven trained graduate students under the supervision of CA. In the final stage, GSL, BN and EFOA independently assessed the full texts of potentially eligible articles to confirm their suitability. Any inconsistencies or disagreements encountered during this phase were resolved through consensus discussions facilitated by CA. To maintain transparency and ensure an auditable process, the entire screening and selection workflow was recorded and illustrated using the PRISMA flow diagram.

2.6 Quality appraisal

The methodological quality of all included studies was evaluated using standardised appraisal tools developed by the Joanna Briggs Institute (JBI), each selected according to the specific design of the study. The JBI checklist for cross-sectional studies was applied to quantitative papers, while the checklist for qualitative research was used for qualitative studies. Each study was then rated based on the criteria outlined in the corresponding tool. For cross-sectional studies, scores ranged from 1 to 4 (high risk of bias), 5–6 (moderate risk), and 7–8 (low risk). Qualitative studies followed a similar scoring system, with 1–5 indicating high risk, 6–7 moderate risk, and 8–10 low risk. The assessments were carried out independently by GSL, BN and EFOA, and any differences in assessment were discussed and resolved with input from CA. Importantly, no studies were excluded solely because of their quality scores. Instead, the results of the appraisal were used to better interpret the findings, helping to ensure that the overall synthesis took into account the methodological strengths and limitations of the included studies.

2.7 Data extraction

A structured data extraction form was created in Microsoft Word to systematically collect key information from the studies included in the review. The main data fields captured details such as the author(s) and year of publication, geographic location of the study, study objectives, research design, sample size, study population, and the identified barriers and facilitators of VCT. To ensure the tool's clarity and reliability, the form was pilot-tested using two randomly selected studies. This pilot phase helped refine the format by highlighting missing elements and ensuring that all team members shared a consistent understanding of the data variables. After final adjustments, BN, GSL, EFOA and YYB independently extracted the data, which was then reviewed by CA for accuracy and completeness. Any discrepancies or inconsistencies that emerged during the process were discussed and resolved through consensus under CA's guidance.

2.8 Data analysis and synthesis

The process of identifying and selecting studies for inclusion was summarised using a PRISMA flow chart, developed in line with PRISMA guidelines (see Fig. 1). Descriptive data on the characteristics of the included studies were analysed in Microsoft Excel and presented through visual summaries, including charts and maps. Specifically, a map was

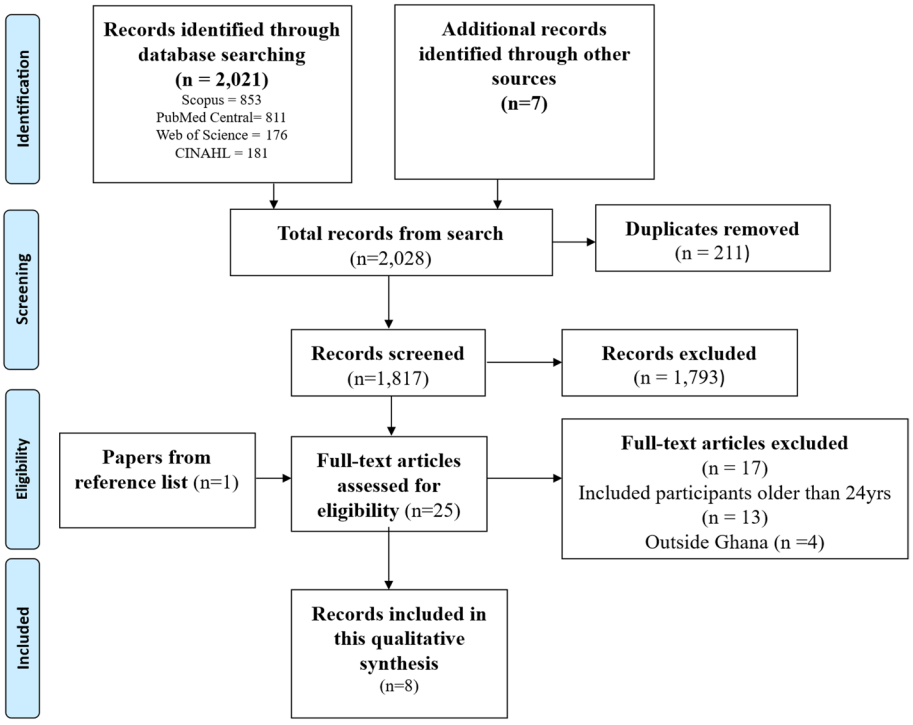

Fig. 1 PRISMA Flow Chart showing study inclusion pathway

used to show the regions where the studies were conducted, while a bar chart illustrated the different study designs represented in the review.

To answer the review questions, both qualitative and quantitative findings were brought together through thematic analysis. This process was conducted manually in stages. First, similar findings across the studies were grouped into preliminary categories, referred to as sub-themes. These were then reviewed, refined, and merged into broader themes that reflected the key ideas emerging from the evidence. After this stage, a convergent synthesis approach was applied to integrate data from different study designs. Quantitative results were "qualitised," meaning that statistically significant quantitative results were translated into narrative statements to allow direct integration with qualitative themes. For cross-sectional studies, barriers and facilitators were identified from variables reported as statistically significant in the original analyses, usually based on a p-value threshold of <0.05. Associations from multivariable regression models were extracted when available, but bivariate or unadjusted associations were also included if multivariable analyses were not performed. These results were not separated by type of statistical model; instead, they were thematically combined to capture the full range of empirically reported barriers and facilitators across the studies.

Following JBI guidance for convergent synthesis, quantitative findings were integrated narratively and categorically to complement qualitative data, rather than being analyzed in separate streams. Determinants were recorded in the data extraction framework according to the direction of their association, classified as either barriers or facilitators, and incorporated into the relevant thematic domains (see Appendix 1). This approach aligns with the review's aim to provide a comprehensive understanding of contextual factors influencing VCT uptake, rather than to compare effect sizes or make causal inferences.

Although methodological quality was appraised to inform interpretation, no formal weighting or prioritization was given based on study scores. This decision reflected the moderate-to-high quality of the included studies and the focus on synthesizing patterns of determinants across diverse study designs rather than emphasizing individual studies. Interpretation highlighted barriers and facilitators reported consistently across multiple studies and contexts, while less frequently observed factors were used to provide additional contextual insight. Using a convergent integrated approach, findings were not presented separately by study design, as thematic integration was central to achieving the review's objectives.

Throughout the process, the thematic categories were reviewed and discussed among the authors to ensure accuracy, consistency, and relevance to the research objectives. Although no software was used to support this process, careful manual organization, iterative discussion and cross-checking among authors ensured methodological rigor and transparency. The final themes were then presented in a narrative format organised around the main research question, with attention given to highlighting recurring patterns, areas of disagreement, and existing gaps in the literature. A summary table was also developed to provide a concise overview of the key themes and their corresponding sources.

3 Results

3.1 Search strategy

A total of 2,021 records were initially obtained from four major databases, including PubMed Central, CINAHL, Web of Science, and Scopus. A further 7 records were sourced through supplementary platforms such as Google Scholar, ProQuest, and various institutional repositories. All references were then uploaded into Mendeley, where 211 duplicates were detected and removed, leaving 1,817 unique studies available for screening. Screening of titles and abstracts resulted in the exclusion of 1,793 records that did not meet the predefined inclusion criteria. A substantial proportion of these studies included broader age groups without presenting age-disaggregated data for young people aged 10–24 years. Many others were conducted outside Ghana or did not specifically examine determinants, predictors, or correlates of voluntary counselling and testing among young people. Additional records were excluded because they were not primary empirical studies, such as reviews, conference papers, editorials, or letters. This process left 24 studies eligible for full-text evaluation. A review of the reference lists of these articles identified one additional study, increasing the number of full-text articles assessed to 25. Following detailed full-text assessment, 17 studies were excluded after closer examination of eligibility criteria. Thirteen were excluded due to including participants older than 24 years, and four because they were conducted outside Ghana. Ultimately, 8 studies satisfied all inclusion requirements and were incorporated into the final analysis. Figure 1 presents a summary of the selection process.

3.2 Characteristics of included studies

Most of the reviewed studies were conducted in the Eastern region (see Fig. 2). Also, the majority (7) of the studies in this systematic review used the cross-sectional study design, with only one using the qualitative study design (see Fig. 3). Appendix 1 shows full details of study characteristics.

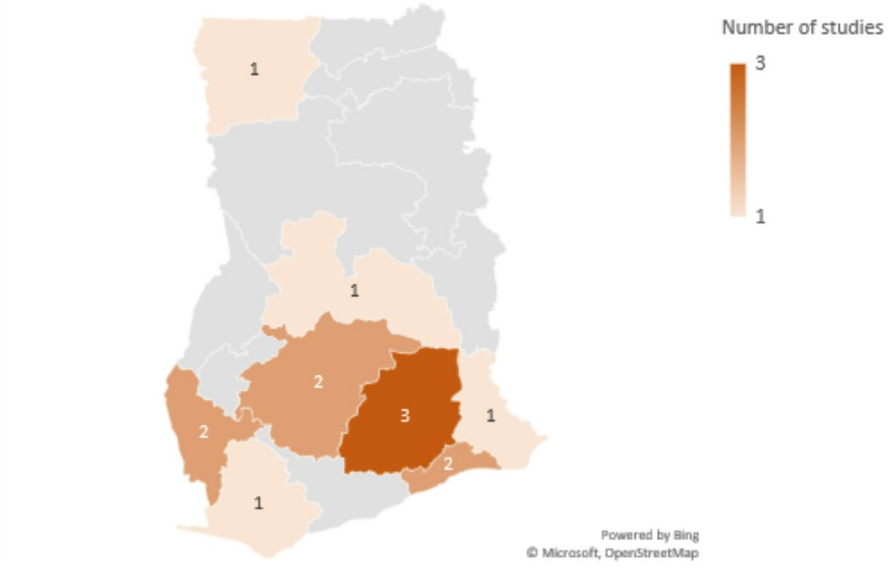

Fig. 2 Map showing regions of included studies

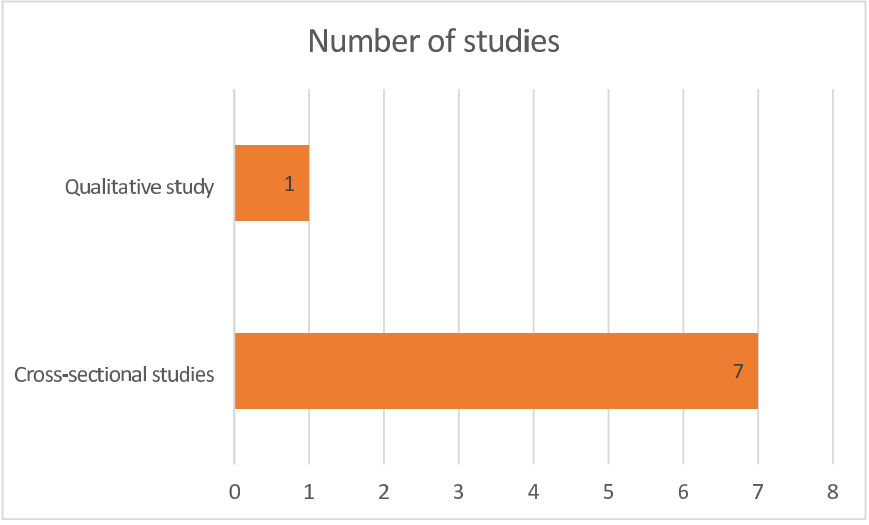

Fig. 3 Bar chart showing study designs of included studies

3.3 Quality appraisal of included studies

Of the eight studies included in this review, four were rated as having a low risk of bias, while the remaining four were assessed as having a moderate risk. The low-risk group comprised four cross-sectional studies [21–24], whereas the moderate-risk group included three cross-sectional studies [25–27] and one qualitative study [28].

Across the cross-sectional studies, the most frequently observed methodological limitation was the absence of clearly defined inclusion and exclusion criteria. Notably, two studies rated as moderate quality [25, 26] and two rated as high quality [21, 23] did not provide detailed information on the criteria used to select study participants. This omission raises concerns about replicability and the potential for selection bias. In the case of the qualitative study [28], the primary weaknesses were related to reflexivity and the failure to state the philosophical premise on which the study is based. The researcher did

not articulate their positionality within the cultural or theoretical context of the study, nor did they reflect on how their perspectives or interactions might have shaped the findings. Additionally, the study did not address the reciprocal relationship between the researcher and participants. These gaps reduce transparency and limit confidence in the interpretive depth of the analysis See Appendices 2 and 3 for full appraisal results.

3.4 Findings

3.4.1 Barriers to VCT among young people in Ghana

The thematic analysis identified four main themes representing the barriers to VCT among young people in Ghana. These include psychosocial fears and anticipated stigma, perceived invulnerability and low risk awareness, social discouragement and normative disapproval, and institutional and relational constraints.

3.4.2 Psychosocial fears and anticipated stigma

Psychosocial fears and anticipated stigma were identified as the most pervasive barriers preventing young people in Ghana from accessing voluntary counselling and testing (VCT). Across the studies, a major concern was the fear of receiving a positive HIV test result, which generated substantial emotional distress and deterred individuals from testing [23, 25, 27, 28]. This fear extended beyond the diagnosis itself to the potential consequences of being known as HIV positive. Participants expressed anxiety about the spread of their test results within their communities, reflecting widespread fears of gossip and breaches of confidentiality [28]. Stigma, both internalised and anticipated, further amplified these concerns. Young people worried about being labelled, mocked, or socially rejected if they were seen accessing VCT services or if a positive result became known [27, 28]. These fears were not abstract; they were grounded in lived experiences of judgment surrounding HIV in their communities. Some participants feared that testing positive could damage their social reputation or jeopardise future relationships, including concerns about being considered unsuitable for marriage [27]. Apprehension about the testing process itself also contributed to avoidance. Some young people felt intimidated by the idea of undergoing an HIV test, expressing uncertainty and fear about what the procedure entailed [27]. Fear of discrimination was another recurring theme, with participants concerned that a positive result could lead to different treatment, isolation, or altered interpersonal dynamics [23, 25]. Taken together, these psychosocial barriers reflect deep-seated social anxieties and highlight how stigma continues to shape young people's engagement with HIV testing services.

3.4.3 Perceived invulnerability and low risk awareness

Many young people demonstrated limited awareness of their own vulnerability to HIV, contributing to a reduced likelihood of seeking VCT. A common misperception was that the absence of symptoms indicated the absence of infection, leading individuals to believe testing was unnecessary [27]. This biomedical misunderstanding reflects a gap in knowledge about the asymptomatic nature of early HIV infection. Additionally, some participants simply believed that they could not possibly have HIV, reinforcing a sense of personal invulnerability [27]. Broader societal silence surrounding HIV further reinforced these beliefs. With few open discussions about the disease, young people lacked the contextual information and social cues that might prompt them to consider their

own risk [27]. Cultural assumptions also shaped perceptions of who testing was meant for. In some communities, VCT was perceived as an intervention intended primarily for married women, thereby discouraging young unmarried individuals, particularly adolescents, from accessing services [28]. Fatalistic beliefs also emerged as notable deterrents. Some participants viewed a positive result as equivalent to a death sentence, reflecting outdated understandings of HIV and limited awareness of treatment options [28]. This belief contributed to the avoidance of testing as a means of delaying or preventing confrontation with feared outcomes. Risky sexual behaviours, such as engaging in casual sex, were also highlighted, yet these behaviours did not translate into increased risk perception or testing motivation [28]. Practical constraints, such as a lack of time, further contributed to low testing uptake, suggesting that even when young people acknowledge some degree of risk, logistical challenges can impede action.

3.4.4 Social discouragement and normative disapproval

Social influences, particularly from families and communities, played a significant role in shaping attitudes toward VCT. In several cases, family members discouraged testing by making belittling or dismissive remarks about VCT, portraying it as unnecessary or irrelevant [27]. These negative attitudes reduced young people's confidence in the value of testing and contributed to a broader culture of silence and avoidance. Community-level disapproval was also prevalent. Individuals reported hearing negative comments about those seen accessing VCT services, which created a climate of suspicion and judgment [27]. This form of collective moral surveillance made young people reluctant to be associated with testing facilities or services. The fear of being publicly identified as someone seeking HIV testing was particularly powerful in close-knit communities, where privacy can be difficult to maintain. Such normative pressures, reinforced by both family members and the wider community, fostered an environment where testing was perceived as socially risky. This social climate not only discouraged VCT uptake but also contributed to broader misinformation and silence surrounding HIV, reinforcing other thematic barriers such as low-risk perception and stigma.

3.4.5 Institutional and relational constraints

Institutional and relational challenges within healthcare settings also contributed significantly to barriers to VCT. Many young people described interactions with healthcare workers as unwelcoming or discouraging, noting that some hospital staff, particularly female nurses, displayed unfriendly attitudes toward individuals seeking testing [27]. Negative staff interactions reduced trust and comfort, making young people hesitant to return to health facilities. Structural factors within healthcare facilities also shaped perceptions of VCT services. For example, the physical appearance of the Kumasi South Hospital was reported as uninviting, potentially signalling poor care quality or contributing to discomfort [27]. Additionally, the separation of HIV clinics from general health services heightened visibility and stigma, as young people feared being recognised as someone seeking HIV-related care [27]. Trust in healthcare providers was another crucial factor. Several participants expressed a lack of confidence in the competence of medical professionals, as well as concerns about confidentiality and the quality of care provided [27, 28]. Low levels of doctor–patient interaction further weakened trust, making it difficult for young people to feel supported or informed during the testing process

[27]. Relational barriers also emerged. Some participants reported a lack of partner and self-trust, which complicated decisions around testing in romantic or sexual relationships [23]. Relationship dynamics influenced whether individuals felt safe disclosing intentions to test or discussing sexual health openly. Interestingly, being married was identified as a barrier in one study, as young married individuals often assumed mutual monogamy or feared disrupting relationship stability by suggesting testing [25] Table 3.

3.5 Facilitators of VCT among young people in Ghana

The thematic analysis identified seven themes representing the facilitators to voluntary counselling and testing (VCT) among young people in Ghana. These include accessibility and youth-friendly health services, individual agency and health-seeking motivation, supportive relationships and social encouragement, faith-based engagement and community awareness, confidence in care and post-test support, socio-demographic facilitators, and perceived protection and safer sexual behaviours.

3.5.1 Accessibility and youth-friendly health services

Accessibility and the availability of youth-friendly services were central facilitators of VCT uptake. Young people reported a greater willingness to test in environments designed specifically to be youth-friendly, as such settings provided comfort, confidentiality, and a sense of safety [21]. The knowledge that parental consent was not required for voluntary HIV counselling and testing (VHCT) also encouraged greater participation, particularly among adolescents who preferred autonomy in health decisions [21].

Table 3 Thematic analysis of barriers to VCT among young people in Ghana

Theme	Barriers	Authors
Psychosocial fears and anticipated stigma	fear of positive HIV test results	[23, 25, 27, 28]
	Fear of the spread of HIV, HIV-positive test news	[28]
	fear of stigma	[23, 25, 27, 28]
	fear of rejection and mockery from friends	[27, 28]
	Fear of the VCT process itself	[27]
	fear of remaining single after testing positive	[27]
	fear of discrimination	[23, 25]
Perceived invulnerability and low risk awareness	not having any symptoms of HIV/AIDS	[27]
	Believing that they did not have HIV	[27]
	Belief that HCT is meant for married women	[28]
	Belief that a positive diagnosis is a death warrant	[28]
	Indulgence in casual sex	[28]
	Lack of time	[28]
	silence about HIV in society	[27]
Social discouragement and normative disapproval	family members' belittling statements about VCT	[27]
	Family members are creating the impression that it is not relevant.	[27]
	Negative comments about those who are seen accessing VCT from the community	[27]
Institutional and relational constraints	unwelcoming attitude of most hospital staff, particularly female nurses	[27]
	The physical appearance of the Kumasi South Hospital	[27]
	separation of the HIV clinic from the other clinics	[27]
	lack of trust in the competence of medical professionals	[27, 28]
	Low Doctor-Patient Interaction	[27]
	lack of partner and self-trust	[23]
	being married	[25]

Awareness of where HIV testing and counselling (HTC) services were located significantly enhanced uptake. Young people who knew the physical locations of testing centres or were aware of how to access services were far more likely to undergo testing [22, 23, 25]. Convenience also emerged as an important consideration, as those who reported no difficulties attending appointments were more likely to follow through with testing [22]. Access to HIV counselling, including pre-test and information-based sessions, similarly encouraged young people to seek testing by reducing uncertainty and clarifying procedural expectations [28].

3.5.2 Individual agency and health-seeking motivation

Personal motivation played a significant role in influencing young people's decisions to test. The desire to access early treatment emerged as a strong facilitator, reflecting an understanding of the benefits of early diagnosis and care [27]. Many participants believed that testing represented a responsible action, particularly in relation to protecting the well-being of sexual partners [27]. Internal readiness, expressed as simply having the will to test, was another key facilitator that empowered young people to seek VCT services [23]. Risk perception was also highly influential. Young people who perceived themselves as susceptible to HIV were more likely to undergo testing [22, 24]. Conversely, confidence in coping with potential outcomes, such as not being afraid of receiving a positive result, promoted testing by reducing psychological barriers [22]. Many participants expressed a strong desire to know their HIV status as a means of gaining personal control over their health [28]. Additional motivating factors included the perception that results would likely be negative, recognition of the broader benefits of testing, satisfaction with service quality, and the belief that adopting a healthier lifestyle could prevent future infection [28].

3.5.3 Supportive relationships and social encouragement

Social networks, particularly family and peers, played an important role in promoting VCT uptake. Young people who reported strong familial support, such as the assurance that family members would not ignore or reject them in the event of a positive result, were more motivated to test [27]. Instances where relatives openly tested and disclosed their status encouraged others within the family to follow their example [27]. Peer dynamics also influenced decisions, with many young people choosing to undergo testing with friends or feeling motivated to prove their negative status to peers [27, 28]. Marital status and living arrangements further shaped testing behaviours. Being married was associated with increased likelihood of accessing testing, possibly due to concerns about mutual health and family planning [22, 23]. In contrast, some studies reported that being single or cohabiting with parents also facilitated testing by providing social stability or guidance in health decisions [26].

3.5.4 Faith-based engagement and community awareness

Faith-based institutions emerged as important sources of health information and emotional support. Churches that provided health education programs helped raise awareness of HIV, correct misconceptions, and create supportive spaces for discussing testing [27]. Religious teachings, prayer sessions, and messages of encouragement nurtured positive attitudes toward health-seeking behaviours by reinforcing hope, resilience, and

spiritual reassurance [27]. Through these activities, religious communities contributed meaningfully to reducing fear and stigma, thereby increasing comfort with VCT uptake.

3.5.5 Confidence in care and post-test support

Confidence in the healthcare system strongly influenced young people's willingness to participate in VCT. Post-test counselling was particularly important, as it helped individuals understand their results, reduced anxiety, and clarified next steps in care [27]. The availability of treatment services further reassured young people that support would be accessible should they test positive [27]. Trust in healthcare workers also played a decisive role. Those who reported no trust issues with health workers were significantly more likely to undergo testing [22].

3.5.6 Socio-demographic facilitators

Certain demographic characteristics were associated with higher levels of VCT uptake. Being female emerged as a positive predictor in one study, possibly reflecting higher health-seeking behaviour among young women [25]. Religious affiliation, particularly being Catholic, was also associated with increased testing [25]. Educational attainment played a major role, as individuals with tertiary or post-secondary education demonstrated a greater likelihood of seeking testing [25]. Age was another factor, with those aged 23 years and above more likely to undergo VCT [25]. Occupation mattered as well, with professional employment associated with increased testing uptake [23]. Place of residence was influential, as young people residing in urban areas had higher testing rates, likely due to better access to health facilities and information [24, 26].

3.5.7 Perceived protection and safer sexual behaviours

Perceptions related to sexual behaviour and protection also facilitated VCT uptake. Some young people reported confidence in their sexual partners' fidelity, which encouraged them to test as a means of confirming mutual trust and safeguarding relationships [27]. Engaging in protected sex similarly promoted testing, as it reflected a broader orientation toward preventive health practices [27]. Beyond individual relationships, a strong desire to prevent the spread of HIV to others further motivated young people to seek testing [28]. This sense of social responsibility, combined with awareness of safer sexual practices, contributed to increased willingness to engage in VCT Table 4.

4 Discussion

This review shows that young people's decisions to use voluntary counselling and testing (VCT) services in Ghana are influenced by personal concerns, social expectations, and the way services are delivered. Testing is rarely driven by a single factor. Instead, it appears to reflect how young people balance their perceived risk, emotional concerns, and anticipated social reactions.

Fear emerged as one of the most commonly reported influences. Many young people expressed worries about testing positive and about being rejected, ridiculed, or socially judged. HIV continues to carry moral connotations in some communities. Similar patterns have been reported across sub-Saharan Africa, where stigma and fear of negative social reactions remain major barriers to youth testing [29, 30]. These findings suggest

Table 4 Thematic analysis of facilitators to VCT among young people in Ghana

Theme	Facilitators	Authors
Accessibility and youth-friendly health services	willing to have the test in youth-friendly clinics	[21]
	Knowing that parental consent was not a requirement during VHCT	[21]
	Knowing HTC	[22, 23]
	knowing where to access the service	[23, 25]
	having no difficulties in turning up for appointments	[22]
	Accessing HIV Counselling	[28]
Individual agency and health-seeking motivation	desire to access early treatment	[27]
	Believing that they have a personal responsibility to ensure the well-being of their partners	[27]
	having the will to test	[23]
	perceived susceptibility	[22, 24]
	not being afraid of positive HIV test results	[22]
	Knowing HIV status	[28]
	Perception of negative results	[28]
	Perceived benefits and good services	[28]
	Perception of adopting an appropriate lifestyle	[28]
Supportive relationships and social encouragement	Care and love in the family (families will not ignore them)	[27]
	a relative testing and disclosing their status	[27]
	Having the test with a friend	[27]
	Peer influence	[27, 28]
	being married	[22, 23]
	being single	[26]
	living with parents	[26]
Faith-based engagement and community awareness	availability of health educational programs in their churches	[27]
	the word of God, prayer sessions and the words of encouragement at church	[27]
Confidence in care and post-test support	Post-test counselling	[27]
	treatment availability	[27]
	Having no trust issues with health workers	[22]
Socio-demographic facilitators	being a female	[25]
	being a Catholic	[25]
	having a tertiary or post-secondary education	[25]
	being 23 years old and above	[25]
	Professional occupation	[23]
	place of residence	[24]
	residing in urban areas	[26]
Perceived protection and safer sexual behaviours	believing that their sexual partners are faithful	[27]
	having protected sex	[27]
	Prevention of the spread of HIV	[28]

that expanding services alone may not increase uptake if fear of social judgment outweighs perceived health benefits.

Low risk perception was another recurring theme. Some participants believed they were not at risk because they had no symptoms or considered HIV testing primarily for married adults. This aligns with evidence from Zambia, where many young people underestimate their personal vulnerability to HIV despite general awareness [31]. Awareness of HIV may exist, but it does not always translate into a sense of personal relevance, which may reduce motivation to test.

Social norms and family influences also shaped engagement with VCT. Reports of discouragement from family members, belittling remarks, or gossip within the community contributed to hesitation. Research across sub-Saharan Africa confirms that adolescent

health behaviours are strongly shaped by social expectations and peer norms [32]. Testing, therefore, may not be experienced solely as a personal health decision but also as a social act that can affect standing within one's community.

Institutional factors were commonly highlighted as barriers. Concerns about privacy, separate HIV clinics, and negative attitudes from healthcare providers were reported as discouraging. These findings align with prior reviews showing that confidentiality and respectful care are critical to youth engagement in HIV testing [29, 33]. Even when services are physically accessible, perceived judgment or exposure can limit use. Trust in healthcare providers appeared to play a central role in whether young people felt safe enough to test.

Despite these barriers, several facilitators were evident. Youth-friendly services that ensured privacy, respect, and convenient access were linked to higher reported willingness to test. Removing parental consent requirements was described as particularly supportive, especially for adolescents seeking autonomy. Evidence from sub-Saharan Africa indicates that youth-friendly approaches can improve uptake of HIV testing services [34, 35].

Individual motivation was also highlighted. Young people who wanted to know their HIV status, access treatment early, or protect their partners reported higher engagement with VCT. Confidence in coping with potential results further supported testing. These findings indicate that self-efficacy and perceived benefits may help offset fear, although internal motivation is often most effective when supportive social and service conditions are present.

Supportive relationships, including encouragement from family, peers, and faith-based communities, were commonly reported as facilitators. Such support appeared to normalize testing and reduce anxiety. Prior reviews have emphasized the role of social networks in promoting HIV testing among adolescents in sub-Saharan Africa [19]. In Ghana, where religion is central to daily life, faith-based engagement may provide trusted spaces for discussing health.

Socio-demographic characteristics were also associated with engagement. Older age, higher education, urban residence, and female gender were linked to higher testing uptake. These findings likely reflect differences in access to information and services. Evidence from sub-Saharan Africa suggests that socio-demographic factors interact with structural and social influences rather than operating independently [19].

Overall, the review highlights how barriers and facilitators are interconnected. Fear is influenced by stigma. Stigma is reinforced by social norms. Service environments can either reduce or intensify these pressures.

4.1 Implications for policy, practice and research

The findings of this review point to several clear actions for policy, practice, and research. Policy makers should expand youth-friendly services, reduce financial and administrative barriers to testing, and strengthen measures that protect confidentiality. Stigma reduction initiatives should be prioritised at both community and institutional levels. Schools, universities, and community centres should be actively engaged to normalise HIV testing and provide accurate information.

In practice, healthcare providers and community workers should deliver services in supportive and non-judgmental ways, and training programs should reinforce

youth-sensitive care. Peer education, outreach initiatives, and faith-based programs should be strengthened to improve trust and engagement.

Future research should examine how social, cultural, and relational factors shape testing decisions over time. Longitudinal studies and systematic reviews should be conducted to strengthen the evidence base for interventions that improve voluntary counselling and testing uptake among young people.

4.2 Limitations of this review

This review has several limitations that should be considered when interpreting the findings. First, the search strategy may not have captured all relevant studies, particularly those that did not explicitly frame their results in terms of barriers and facilitators, although efforts were made during screening to include studies using related terms such as factors, correlates, and determinants. Second, most of the included studies were conducted in urban areas of Ghana, which may limit the transferability of the findings to rural settings where access to services, cultural norms, and health system factors may differ. In addition, no studies were excluded based on quality appraisal scores. While this approach allowed for a more inclusive synthesis of available evidence, it also means that findings from lower-quality studies may have influenced the overall conclusions. There may also be variability in study designs, measures, and reporting across the included studies, which could affect the consistency and comparability of the results. Furthermore, as with many systematic reviews, the findings are dependent on the quality and scope of the existing literature. Potential publication bias and the exclusion of grey literature may have limited the range of perspectives captured.

Despite these limitations, steps were taken to enhance the rigour of the review, including the use of a systematic search across multiple databases and a structured appraisal of methodological quality. These measures support a cautious interpretation of the findings as a synthesis of the available evidence on barriers and facilitators to voluntary counselling and testing among young people in Ghana.

5 Conclusion

The included studies indicate that young people's uptake of voluntary counselling and testing for HIV in Ghana may be influenced by a combination of psychosocial fears, limited risk awareness, social pressures, and health system challenges. At the same time, factors such as youth-friendly services, supportive relationships, personal motivation, and confidence in care appear to be associated with increased testing. The findings suggest that barriers and facilitators are interconnected, and that efforts to improve VCT uptake may benefit from addressing personal, social, and structural factors. Future research could further examine these issues in rural settings, evaluate the effectiveness of tailored interventions, and apply longitudinal approaches to better understand how attitudes and behaviours related to HIV testing evolve over time.

Supplementary Information

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Supplementary Material 1.

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