Reproductive Health

REVIEW

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Prevalence and barriers to the utilization of adolescent and youth-friendly health services in Ghana: systematic review and meta-analysis

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Abstract

Background The Adolescent and Youth-Friendly Health Services (AYFHS) program in Ghana aims to improve access to reproductive and sexual health services for young people. However, despite its importance, low utilization rates persist. Existing studies report various barriers, but there is a lack of synthesized evidence on AYFHS utilization and the specific barriers in Ghana. This gap limits the development of targeted interventions. Therefore, this study systematically reviews the prevalence and barriers to AYFHS utilization in Ghana to inform context-specific solutions.

Methods This review adhered to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Four main databases (PubMed, Web of Science, JSTOR, and Scopus) were searched for relevant papers. Papers (peer review and grey literature) on Ghanaian adolescents and young people aged 10–24 years, published online in 2010–2023 and published in English were selected for the review. Finally, 11 records were included in this systematic review and meta-analysis.

Results Six studies were conducted in the Ashanti region, with most being cross-sectional surveys. Sampling methods varied: three used purposive sampling, one combined purposive and convenience sampling, and another used both purposive and stratified sampling. Random and multi-stage stratified sampling were used in other studies. The overall prevalence rate of AYFHSutilization in Ghana was 42% (CI 24%- 60%). Education and financial constraints significantly affected AYFHS access. Religious beliefs, limited education, financial constraints, negative attitudes, and a lack of parental consent deter its use. Facility-related issues like medicine shortages, long waiting times, and confidentiality concerns acted as barriers. Cultural, religious, and educational norms impact decisions to use AYFHS.

Conclusion and recommendation To enhance utilization and align with Sustainable Development Goal Three (ensuring good health and well-being for all), culturally sensitive interventions, improved access, comprehensive sex education, and awareness campaigns are vital.

Keywords Adolescent health, Barriers, Service utilization, Youth-friendly services

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Introduction

The World Health Organization (WHO) defines adolescence as a phase between childhood and adulthood, from ages 10 to 19 [44]. Adolescents account for about 18% (1 in 6 people) of the world's population [41]. Sub-Saharan Africa (SSA) has a relatively higher proportion of adolescents [41]. It is estimated that nearly a quarter (23%) of the population in SSA and Ghana consists of adolescents (UNICEF, 2016).

Considering the continuous physiological and psychosocial changes that adolescents undergo, it is imperative to prioritize their health and well-being [43, 44]. Among the various aspects of adolescent health, their sexual and reproductive health has emerged as a significant concern [43, 44]. Unfortunately, many adolescents face challenges in accessing sexual and reproductive health services due to the pervasive stigma associated with these issues [34]. Consequently, there has been a notable increase in rates of sexual activity, early pregnancies, and sexually transmitted infections (STIs) on a global scale [34]. For instance, according to data from WHO [44], there are approximately 43 births per 1000 girls aged 15–19 years each year. Within this statistic, it is alarming to note that around 777,000 girls under the age of 15 give birth annually, and approximately 3.9 million girls aged 15–19 years resort to unsafe abortions [43]. These stark figures underscore the prevailing sexual and reproductive health challenges faced by adolescents worldwide.

In Ghana, the issue of adolescent childbearing is a matter of concern, with approximately 14% of girls aged 15 to 19 years having initiated childbearing, resulting in an approximate live birth rate of 11% [25]. Notably, research conducted in the Central region of Ghana highlighted that a significant proportion of pregnancies (79.2%) occurred among adolescent girls whose families did not have stringent rules and regulations regarding sexual matters. Additionally, approximately 56% of teenage girls who lacked the freedom to discuss issues related to sexuality within their families openly experienced pregnancy [6, 8]. Further investigations in the same region revealed that a substantial 82% of sexually active adolescents were not utilizing any form of contraceptive method [28]. Meanwhile, a study encompassing adolescents aged 10–19 years in the Greater Accra Region demonstrated that merely 12.3% of them visit health facilities for general counseling, while a slightly larger percentage, 43.3%, accessed health information services [39]. These findings emphasize the pressing need for comprehensive sexual and reproductive health education and services targeting adolescents in Ghana, especially in regions where the prevalence of early pregnancies and low contraceptive use remains a significant concern.

In response to the escalating burden of sexual and reproductive health challenges faced by adolescents in Ghana, the Ministry of Health, in collaboration with the Ghana Health Service, WHO, and other stakeholders, has implemented targeted interventions aimed at promoting and safeguarding the sexual and reproductive health needs of this vulnerable population [18, 24, 42]. One of the pivotal initiatives in Ghana's arsenal to address these concerns is the Adolescent and Youth-Friendly Health Services (AYFHS) program. AYFHS refers to healthcare services designed to meet the specific health needs of young people in Ghana, particularly those aged 9–24 years. These services are intended to be accessible, inclusive, and responsive to the unique social, cultural, and economic contexts faced by Ghanaian adolescents and youth [14].

AYFHS designed and implemented in 2010 is to enhance the accessibility and quality of health services focusing on reproductive and sexual health services, for young people. Despite the evident importance and cost-effectiveness of the AYFHS program, a recurring and concerning pattern of low utilization among adolescents in Ghana has been consistently observed and documented in various studies. This recurring issue underscores the pressing need for a systematic review that critically examines the existing body of literature on the prevalence as well as the barriers to the utilization of AYFHS in Ghana [6, 8, 14]. Hence, this study systematically reviewed the prevalence and barriers to the utilization of adolescent and youth-friendly health services in Ghana.

The evidence from this study could guide the development of evidence-based, context-specific, culturally sensitive policies toward improving the accessibility and utilization of AYFHS by adolescents in Ghana. This evidence can serve as a crucial roadmap for policymakers, healthcare providers, and stakeholders in designing targeted interventions that address the specific needs and challenges faced by adolescents.

Methods

This review adhered to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Additionally, we incorporated the principles outlined by Arksey and O'Malley [13]. These guidelines encompass key stages in the review process, including formulating research questions, literature search, study selection, data extraction, summarizing data, synthesizing results, and expert consultation [13]. The primary research question that guided the study was:

What are the prevalence and barriers to adolescent and youth-friendly health services utilization in Ghana?

Identifying relevant studies

To identify relevant studies, comprehensive searches were conducted across four main databases: PubMed (Platform: National Centre for Biotechnology Information), Web of Science (Platform: Clarivate Analytics), JSTOR (Platform: ITHAKA), and Scopus (Platform: Elsevier). Additional search was conducted in Google Scholar (Platform: Google), World Health Organisation Library, Science Direct (Platform: Elsevier), and Taylor and Francis (Platform: Taylor and Francis). The searches applied controlled vocabulary terms (MeSH) and Boolean operators to refine results related to utilization rates, barriers, and the Ghanaian context.

The initial search in PubMed employed Medical Subject Headings (MeSH) terms, meticulously crafted based

Table 1 Literature Search Summary Table

Database	Date of search	Query/Search String	Results
PubMed	30/08/2023	**Utilization of AYFHS**: #1: Utilization* [MeSH Terms] OR Percentage of utilization* OR Frequency of utilization* OR Proportion of utilization* #2: Adolescent health services* [MeSH Terms] OR Adolescent-friendly care* OR Youth-friendly clinics OR Adolescent-friendly corners* OR Adolescent health education* OR Youth health promotion services* OR Sexual education services* OR Family planning* OR Adolescent reproductive counseling* OR Youth well-being Services #3: Ghana* [MeSH] OR Greater Accra Region* OR Central Region* OR Western Region* OR Western North Region* OR Ashanti Region* OR Eastern Region* OR Volta Region* OR Oti Region* OR Bono Region* OR Bono East Region* OR Ahafo Region* OR Northern Region* OR Savannah Region* OR North East Region* OR Upper East Region* OR Upper West Region **Overall Search Strategy**: #1 AND #2 AND #3 Not Animal* **Filters activated**: English Language (01/01/2010 to 30/08/2023)	2764
	30/08/2023	**Barriers to Utilization of AYFHS**: #1: Barriers* [MeSH Term] OR hindrance* OR Challenges* OR Difficulties* #2: Utilisation* [MeSH Term] OR access* OR Use* OR Usage* #3: Adolescent and youth-friendly health services* [MeSH Terms] OR Adolescent and Teen health services* OR Adolescent-friendly care* OR Youth-friendly clinics OR Adolescent-friendly corners* OR Adolescent reproductive health Programs* OR Adolescent health education* OR Youth health promotion services* OR Sexual education services* OR Family planning clinics* OR Adolescent sexual and reproductive counseling* OR Youth well-being Services #4: Ghana* [MeSH] OR Greater Accra Region* OR Central Region* OR Western Region* OR Western North Region* OR Ashanti Region* OR Eastern Region* OR Volta Region* OR Oti Region* OR Bono Region* OR Bono East Region* OR Ahafo Region* OR Northern Region* OR Savannah Region* OR North East Region* OR Upper East Region* OR Upper West Region **Overall Search Strategy**: #1 AND #2 AND #3 AND #4 Not Animal* **Filters activated**: English Language (01/01/2010 to 30/08/2023)	
Web of Science	01/09/2023	TS = (Utilization* OR Access* OR Barriers* OR Hindrance* OR Challenges*) AND TS = (Adolescent health services* OR Youth-friendly services* OR Sexual and reproductive health services* OR Family planning) AND TS = (Ghana OR Greater Accra OR Ashanti OR Bono OR Volta OR Ahafo OR Savannah OR Northern OR Western Region) AND Language = (English) AND Publication Year = (2010–2023)	3081
JSTOR	02/09/202	**Search String**: Utilization* OR Access* OR Barriers* AND Adolescent health services OR Youth-friendly services AND Ghana **Filters**: Publication Year: 2010–2023	2189
Scopus	05/09/2023	TITLE-ABS-KEY (Utilization* OR Barriers* OR Challenges* AND Adolescent health services OR Youth-friendly clinics AND Ghana) AND Language = English AND PUBYEAR > 2009	4321

Table 2 PICO Table

Element	Description
Population	Ghanaian adolescents and youths aged 10–24
Intervention	Access to or utilization of adolescent and youth-friendly health services (AYFHS) in Ghana
Comparator	Not applicable, as this is a prevalence and barrier assessment (no comparison group)
Outcome	(1) Prevalence rate of AYFHS utilisation (2) Barriers to AYFHS utilization (personal, familial, facility, and societal factors)

on the Population, Intervention, Comparison, and Outcome (PICO) framework (Tables 1 and 2). Specific filters restricted the results to English-language articles published between 2010 and 2023. The search was limited to studies published in 2010–2023 because the AYFHS was implemented in 2010, hence, this review targeted all studies published since the implementation of the AYFHS in Ghana. The MeSH terms were subsequently adapted for use in other databases. For expert guidance in conducting the search and managing search results, we collaborated with a certified digital librarian. Reference lists of eligible papers were also searched for relevant papers. A chartered librarian was consulted for database searching and managing search results. The Mendeley software was used in managing search records. The final search in all databases was performed on August 30, 2023. In total, 12,355 records were identified, distributed as follows: PubMed (2,764), Web of Science (3,081), JSTOR (2,189), and Scopus (4,321). This strategy yielded a comprehensive collection of studies for screening and inclusion assessment (The complete search strategy table, including detailed search strings, dates, and record counts per database, see Table 1).

Study selection

Screening of search records was done in three levels. In the first level, the Mendeley software was used to remove duplicates. In the second level of screening, titles and abstracts were screened for full-text eligible papers. This was done independently by a group of 12 graduate students who were trained and supervised by the researcher and reviewers. A meeting was held to compare the screening results and resolve any discrepancies. In instances of unresolved conflicts, the researchers stepped in to settle the differences. In the third level of screening, full-text eligible papers were screened for inclusion and exclusion. This screening was done independently by two independent researchers. The two researchers met to compare their screening results and settled their differences. Where there was unresolved conflict, an expert was consulted to settle the differences. and reviewed the screening results to enhance their validity. See inclusion and exclusion criteria in Table 3.

Risk of bias (quality) assessment

Joanna Briggs's critical appraisal tools were used to appraise included studies [29]. This was done to ensure the credibility, reliability, and validity of the review's conclusions. Also, it helped the study to identify the strengths and weaknesses of each included study's methodology to ensure that only studies with adequate methodological rigor contribute to the review's findings.

The Joanna Briggs appraisal tool consists of a checklist with ten questions for qualitative studies and eight questions for cross-sectional studies, while it includes 11 questions for systematic reviews and research synthesis (Joanna Briggs Institute, 2011). Only qualitative studies and cross-sectional studies critical appraisal tools were adapted for assessment.

To gauge the risk of bias in the included studies, a scoring system was employed. Studies that scored less than half of the questions were categorised as having a high risk of bias, those scoring exactly half or more of the questions were considered to have moderate risk, and those scoring more than half of the questions were deemed to have a low risk of bias. Of the eleven studies incorporated into this systematic review and meta-analysis, ten were found to have no significant risk of bias, indicating a high level of methodological quality. Only one study was identified as having a moderate risk of bias. Consequently, all eleven studies were included in the analysis (see Tables 3 and 4). This approach to assessing the risk of bias ensures that the included studies are of reasonable methodological quality and strengthens the validity of the systematic review and meta-analysis.

PO and DFA independently appraised the identified articles. The researchers compared the appraisal results and resolved discrepancies. A third reviewer (MA) was consulted to resolve unsettled conflicts in the assessment results.

Data extraction and summarising data

Two researchers independently extracted the data from the selected studies. The researchers compared and settled any discrepancies in their results. A third researcher was consulted to settle the differences in instances where there were unresolved conflicts.

Table 3 Eligibility criteria for screening search records

Inclusion criteria	Exclusion criteria
● Qualitative and cross-sectional studies that assessed the prevalence and barriers to utilization of AYFHS in Ghana ● Studies that sampled Ghanaian adolescents between ages 10 and 24 ● Studies published in English ● Studies published online from 2010 to 2023 ● Peer-reviewed studies or grey literature (Thesis/dissertation)	● Reviews, letters to editors, commentaries, preprints, and conference papers

Table 4 JBI critical appraisal checklist for analytical cross-sectional studies

References	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Scores	Overall quality
Adokiya et al. [5]	Yes	Yes	Yes	Yes	No	No	Yes	Yes	6	Low-risk
Kumi-Kyereme et al. [32]	Yes	Yes	N/A	Yes	No	No	Yes	Yes	5	Low-risk
Asare et al. [14]	Yes	Yes	N/A	Yes	No	No	Yes	Yes	5	Low-risk
Addo et al. [4]	Yes	Yes	N/A	Yes	No	No	Yes	Yes	5	Low-risk
Appiah et al. (2015)	No	Yes	N/A	Yes	No	No	Yes	Yes	4	Moderate risk
Dapaah et al. [23]	Yes	Yes	N/A	Yes	No	No	Yes	Yes	5	Low-risk

A data extraction table was designed in Microsoft Excel, pretested, and used to extract included studies. The data extraction table consisted of the names of authors, year of publication, study design, sampling method, and summary of findings (see supplementary material 1).

Data synthesis

A narrative synthesis was used to analyze the data. A meta-analysis was performed using STATA version 17 to estimate the pooled prevalence of utilization of adolescent and youth-friendly health services in Ghana. A random effect model with a restricted maximum likelihood method was used to estimate the pooled prevalence. This allowed for study heterogeneity. The potential publication bias was assessed with a funnel plot, as well as Egger's test. A p-value of <0.05 indicates significant publication bias.

Results

Search results

The database search yielded 12,359 potential studies. Search records were transferred to Mendeley where 4,181 duplicate records were deleted. Furthermore, 8,178 titles and abstracts were further screened. The titles and abstracts of all the articles were screened for relevance to determine which articles were eligible for inclusion. The abstract screening process produced 35 full-text eligible records. Reference lists of eligible records produced 3 additional records. After a review against the eligibility criteria, 11 papers were selected for inclusion in this review. Six out of the 11 records were included in the quantitative synthesis (meta-analysis) while all the 11 records were included in the qualitative synthesis. The PRISMA flow chart of the search results and screening process is presented in Fig. 1.

Characteristics of studies

Table 1 provides an overview of the characteristics of the studies included in this review. Most (6) of the studies were conducted in the Ashanti region. Also, the majority of the studies (6) were cross-sectional surveys (See Fig. 2 for details). Furthermore, most (3) of the reviewed studies were published online in 2018 and 2021 (See Fig. 3 for details).

Three studies employed purposive sampling [27, 32, 33], while one study combined purposive and convenience sampling [7]. Another study used both purposive and stratified sampling methods [21]. Additional sampling methods included random sampling, multi-stage stratified sampling, convenience sampling, and stratified sampling, each used by a single study [2, 5], Appiah-Mensah, 2016; [23].

Risk of bias (quality) assessment

Out of the eleven studies incorporated into this systematic review and meta-analysis, ten were found to have no significant risk of bias, indicating a high level of methodological quality. Only one study was identified as having a moderate risk of bias. Consequently, all eleven studies were included in the analysis (refer to Tables 4 and 5).

Also, to evaluate potential publication bias, a funnel plot was generated for the studies included in this meta-analysis (Fig. 4). The plot displays the relationship between the effect sizes and the standard errors of the included studies, with the 95% confidence interval (CI) represented by the pseudo-CI funnel. Visual inspection of the funnel plot indicates a fairly symmetrical distribution of studies around the estimated effect size. Additionally, Egger's test for funnel plot asymmetry was conducted and yielded a p-value greater than 0.05, indicating no significant asymmetry. This suggests an absence of publication bias, implying that the findings of this meta-analysis are unlikely to be skewed by the selective publication of studies.

The pooled prevalence of utilization of AYFHS

The pooled prevalence of adolescent and youth-friendly health services utilization in Ghana stands at 42% (95% CI 24%—60%). It is important to note that the analysis revealed significant heterogeneity, as confirmed by the I-square statistic ($I^2 = 88.92\%$) and the chi-squared test

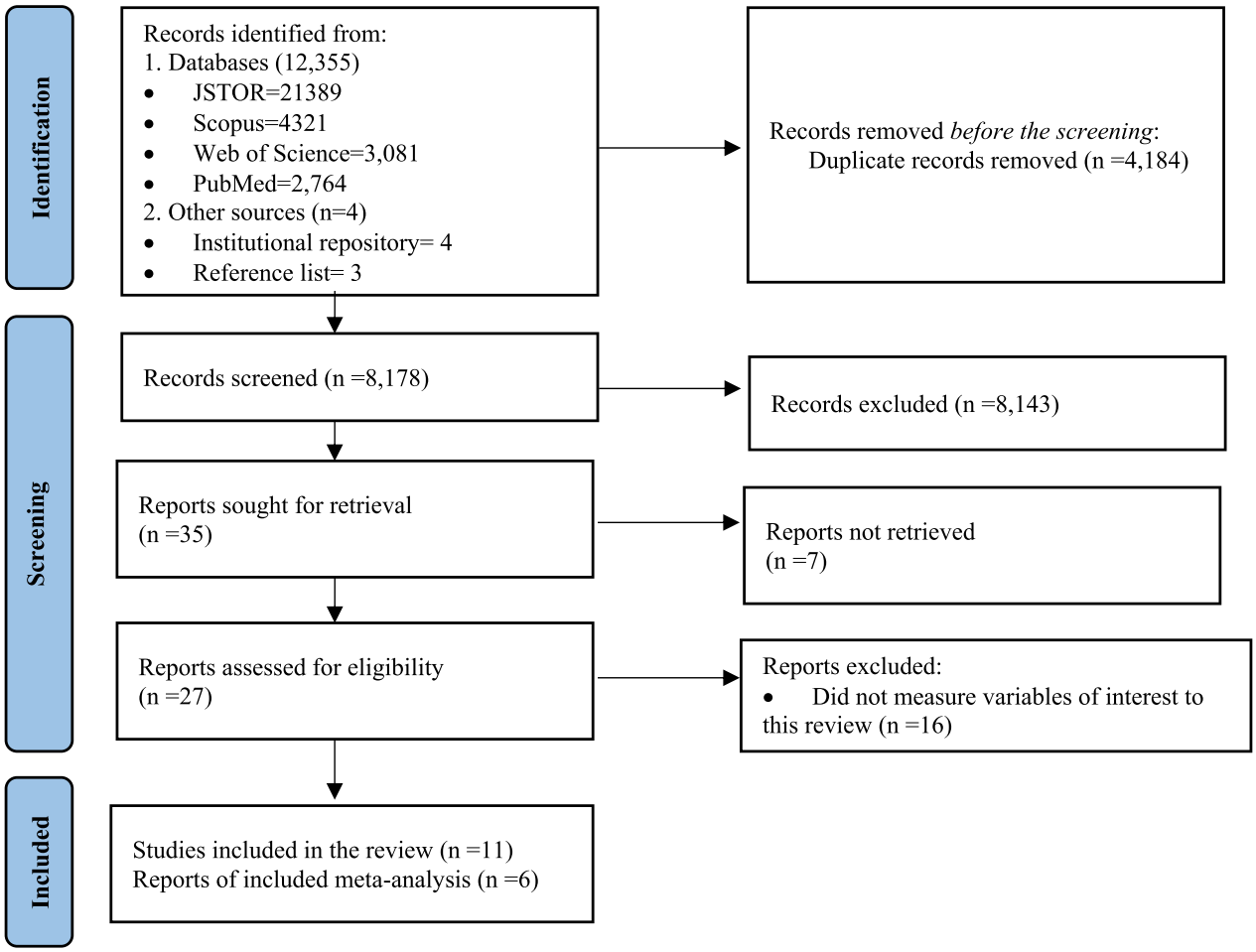

Fig. 1 PRISMA flow chart showing article selection and screening process

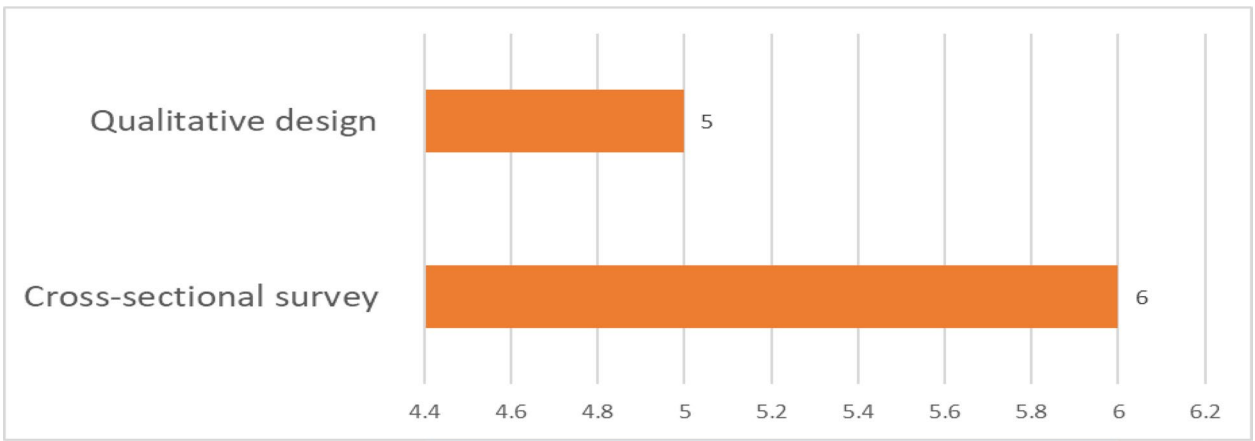

Fig. 2 Designs reviewed studies adopted

($X^2 = 60.33$, $p = 0.00$). To account for this heterogeneity, a random-effects model analysis was employed, ensuring that the data accounts for variability between the studies (see Fig. 5). Additionally, an assessment for publication bias using Egger's regression test yielded a p-value greater than 0.05. This result indicates the absence of publication

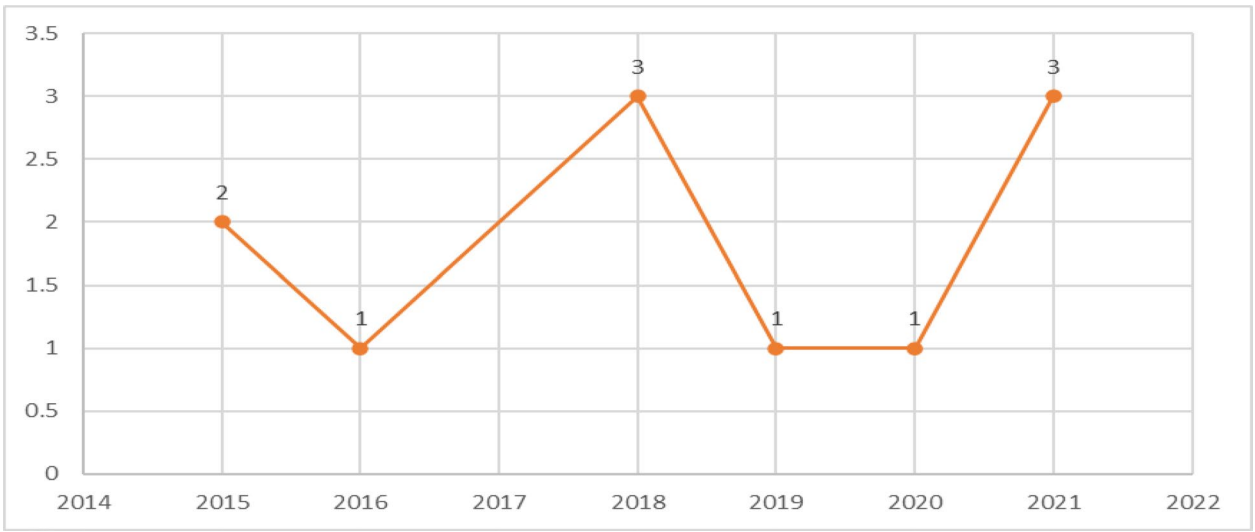

Fig. 3 Year of publication of reviewed studies

Table 5 JBI critical appraisal checklist for qualitative research

References	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Score	Overall quality
Kyilleh et al. [33]	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	8	Low-risk
Abuosi et al. [2]	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	7	Low-risk
[7]	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	7	Low-risk
Challa et al. (2017)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	7	Low-risk
Hagan et al. [27]	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	8	Low risk

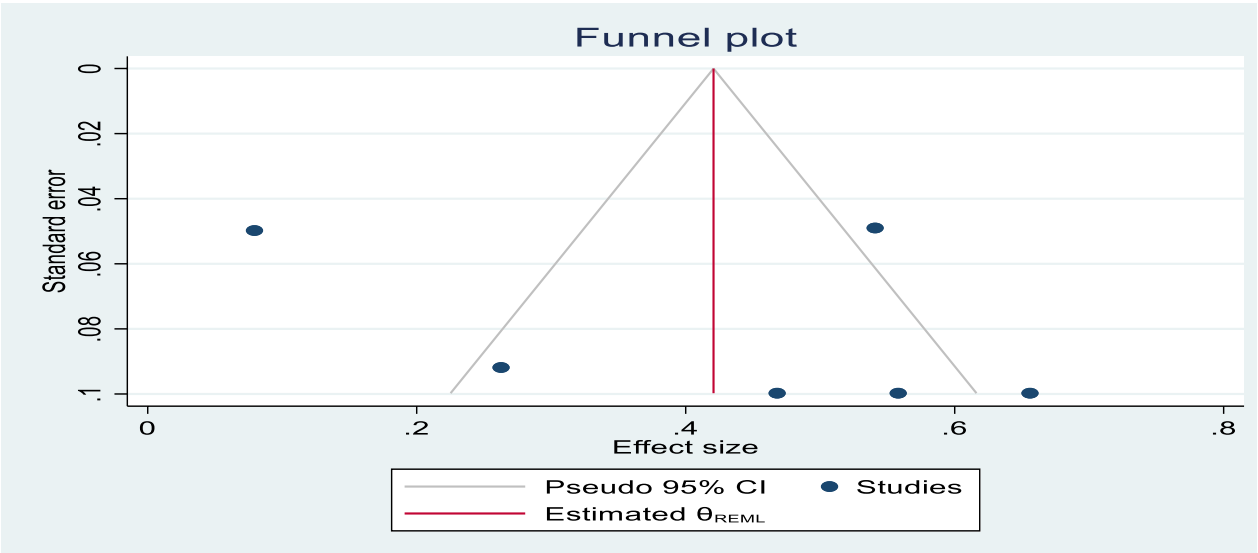

Fig. 4 Funnel plot for publication bias

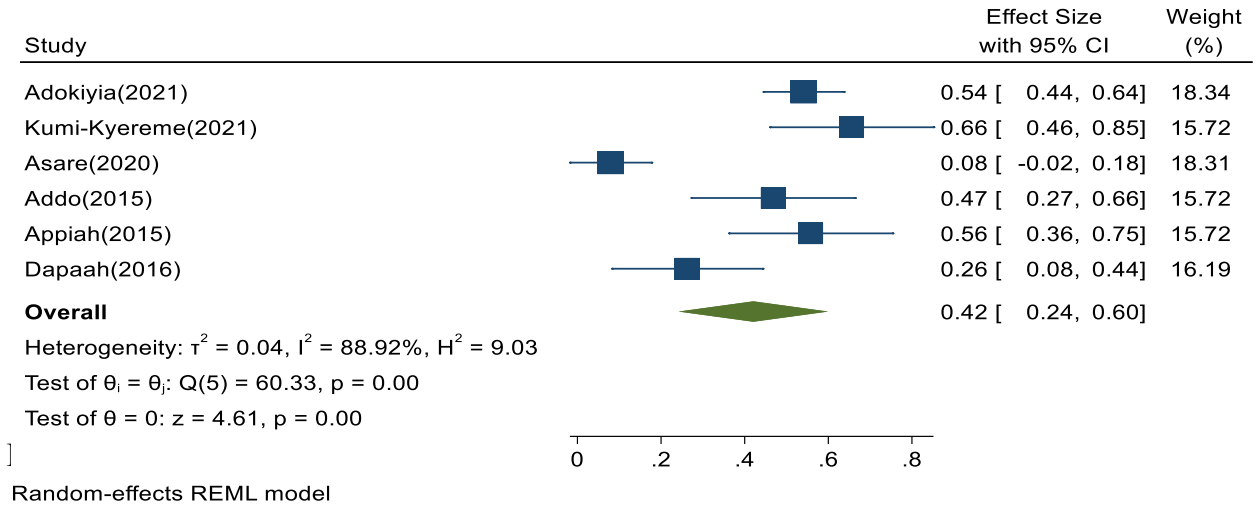

Fig. 5 Forest plot of pooled mean with corresponding 95% CI. Random-effects model analysis for variability between the studies

Table 6 Summary results of meta-analysis for utilization of adolescent and youth-friendly health services

Study	Effect size	95% CI	% Weight
Adokiya [5]	0.541	0.445–0.637	18.34
Kumi-Kyereme [32]	0.656	0.460–0.852	15.72
Asare [14]	0.079	− 0.018–0.177	18.31
Addo [4]	0.468	0.272–0.664	15.72
Appiah (2015)	0.558	0.362–0.754	15.72
Dapaah et al. [23]	0.263	0.083–0.443	16.19
Egger test = 0.3014			
I-square (%) = 88.92			
Model = Random-effects model			

bias in the analysis, suggesting that the findings are less likely to be influenced by the selective publication of studies (refer to Table 6).

Barriers to the utilisation of adolescent and youth-friendly health services in Ghana

Thematic synthesis was done, and five main barrier themes were found. The facility, provider, personal, family and community, and societal factors (see Table 7 for thematic analysis of barriers to utilization of AYFHS).

Personal factors

Adokiya et al. [5] highlight that female adolescents encounter unique challenges that can shape their access and utilization of AYFHS. Furthermore, the study underscores that Muslim adolescents face specific considerations related to their religious beliefs, which may affect their engagement with AYFHS. Additionally, Adokiya et al. emphasize that adolescents with no formal education may experience distinct barriers in accessing AYFHS. Abuosi et al. [2] emphasize the importance of addressing negative perceptions about health workers as a personal barrier that can deter adolescents and youth from seeking AYFHS. The study also highlights the role of peer influence and financial constraints as significant personal factors that impact decisions regarding AYFHS utilization. Fear and lack of information emerge as further challenges within this context.

Challa et al. [21] draw attention to the influence of early sexual debut and non-use of contraception as personal factors that can shape adolescents'engagement with AYFHS. Moreover, young persons with disabilities, particularly those who are deaf, may confront unique obstacles in utilizing these services. Kumi-Kyereme et al. [32] underscore the role of a good perception of health status and the absence of health insurance as personal factors that can affect adolescents'utilization of AYFHS. The study also emphasizes the significance of addressing low awareness and knowledge about AYFHS and the perceived high cost associated with these services. As highlighted by Asare et al. [14] and Dapaah et al. [23], the lack of awareness and knowledge about AYFHS emerges as a significant personal factor that can hinder adolescents and youth from accessing these essential services. This knowledge gap may contribute to misconceptions or uncertainties surrounding AYFHS, potentially deterring young individuals from seeking them. Asare et al. [14] further underscores the perceived high cost associated with AYFHS as a personal barrier to their utilisation.

Table 7 Thematic analysis of barriers to the Utilisation of AYFHS in Ghana

Major theme	Specific barrier	Authors
Personal factors	Female adolescent	[5]
	Muslim	[5]
	No education	[5]
	Negative perception about health workers	Abuosi et al., [2]
	Peer influence	Abuosi et al., [2]
	Financial constraints	Abuosi et al., [2]; Addo et al., [3]
	Fear	Abuosi et al., [2]
	Lack of information	Abuosi et al., [2]
	Early sexual debut	[21]
	Non-use of contraception	[21]
	Yong person with disabilities	Kumi-Kyereme et al., [32]
	Being deaf	Kumi-Kyereme et al., [32]
	Good perception of health status	Kumi-Kyereme et al., [32]
	Lack of health insurance	Kumi-Kyereme et al., [32]
	Low awareness and knowledge about AYFHS	[14, 23]
	Perceived high cost of AYFHS	[14]
Family/interpersonal factors	Lack of parental support	Abuosi et al., [2]
	Negative parental attitudes towards seeking AYFHS	Amankwa et al., [7]
	Lack of parental/guardian consent	[27]
Facility factors	Inadequate physical space and privacy	Abuosi et al., [2]
	Shortage of medicines and supplies	Abuosi et al., [2]
	Inconvenient operating time	Abuosi et al., [2]
	Long waiting time	Abuosi et al., [2]
	Low-quality services	[21]
Service provider factors	Negative attitudes of healthcare providers	[27, 33]
	Lack of confidentiality	[21, 33]
	Disrespect for adolescents	Abuosi et al., [2]
	Discrimination	Abuosi et al., [2]
	Judgmental attitudes	Abuosi et al., [2]
	Opposite-gender service provider	Addo et al., [2]
	Older service provider	Addo et al., [3]
Community/Community factors	Poor social norms	Amankwa et al., 2018; [33]
	Poor attitudes of teachers of society on the use of AYFHS	Amankwa et al., [7]
	The unacceptability of adolescent sexual activity and its consequences	[21]
	Religious teaching about abstinence and premarital sex	[21]
	Religious doctrines that frown on contraceptive usage	Addo et al., [3]
	Lack of comprehensive sex education	[21]

Family-related factors

In Ghana, the utilisation of AYFHS is significantly influenced by family and interpersonal factors, as corroborated by empirical evidence. One critical factor is the lack of parental support, which Abuosi et al. [2] have highlighted as a substantial barrier preventing adolescents and youth from utilizing AYFHS. Additionally, Amankwa et al. [7] emphasize the pivotal role of parental attitudes, particularly negative ones, in shaping the decisions of adolescents and youth regarding AYFHS utilisation. Furthermore, Hagan et al. [27] stress the importance of securing parental or guardian consent, as it can wield considerable influence over adolescents'and youths'access to AYFHS.

Facility-related factors

Facility-level factors significantly influence the utilization of AYFHS in Ghana, as indicated by reviewed studies.

Inadequate physical space and privacy, as highlighted by Abuosi et al. [2], can compromise the accessibility and comfort of AYFHS for adolescents and youth. Shortages of essential medicines and supplies, also emphasized by Abuosi et al. [2], pose a considerable barrier to effective service delivery. Moreover, inconvenient operating hours and long waiting times discourage adolescents from seeking AYFHS [2]. Additionally, Challa et al. [21] highlighted the critical role of service quality, with low-quality services hindering utilization.

Service provider-related factors

Healthcare service provider-related factors play a substantial role in shaping the utilization of AYFHS in Ghana among included studies. Negative attitudes exhibited by healthcare providers, as highlighted by Kyilleh et al. [33] and Hagan et al. [27], can significantly impact adolescents'and youth's perceptions of AYFHS and deter them from seeking care. The crucial aspect of confidentiality, noted by Kyilleh et al. [33] and Challa et al. [21], underscores the necessity of maintaining privacy and trust in healthcare interactions. Additionally, Abuosi et al. [2], emphasize that disrespect, discrimination, and judgmental attitudes by healthcare providers can create an unwelcoming environment for adolescents accessing AYFHS. Factors such as the gender and age of service providers, as highlighted by Addo et al. [4] can also influence adolescents'comfort and willingness to engage with AYFHS.

Community and societal- related factors

Reviewed studies found that community and societal factors significantly influence the utilization of AYFHS in Ghana. Poor social norms can create barriers to using AYFHS, as they may discourage adolescents and youth from seeking such services due to societal judgment [7, 33] Additionally, negative attitudes and perceptions held by teachers and society regarding the use of AYFHS, as noted by Amankwa et al. [7], can contribute to the stigma surrounding these services. Cultural and religious factors also play a substantial role, as reported by Challa et al. [21] and Addo et al. [2], with religious teachings emphasizing abstinence and premarital sex avoidance, and the doctrines discouraging contraceptive usage. Furthermore, the lack of comprehensive sex education, as reported by Challa et al. [21], can leave adolescents ill-informed about their sexual and reproductive health rights and options.

Discussion

Summary of findings

This systematic review of AYFHS utilisation in Ghana reveals a complex landscape of factors influencing adolescents and youths'access to these critical services. The pooled prevalence of AYFHS utilisation is approximately 42%, highlighting room for improvement in ensuring that these services effectively reach the target population. Personal factors, such as gender, religious beliefs, education, and financial constraints, significantly shape utilisation patterns. Family-related factors, including the role of parental support and attitudes, further impact adolescents'access to AYFHS. Facility-related challenges, like shortages of medicines and long waiting times, and service provider-related factors, such as negative attitudes and lack of confidentiality, pose additional barriers. Furthermore, community and societal norms, influenced by cultural, religious, and educational factors, play a substantial role in shaping adolescents'and youths'decisions regarding AYFHS utilization.

Prevalence of utilisation of AYFHS

The findings of this systematic review indicate that only 42% of adolescents in Ghana utilize adolescent and youth-friendly health services (AYFHS), signaling that while progress has been made in increasing access, a significant proportion of young people still face barriers to service utilization. AYFHS is a critical component of adolescent healthcare, offering essential support for sexual and reproductive health, mental health, and general well-being. The reported utilization rate aligns closely with findings from Ethiopia (42.73%) [19], suggesting that similar structural and socio-cultural factors may be shaping adolescent health service engagement across sub-Saharan Africa. However, this consistency also highlights a broader issue—persistent gaps in service availability, accessibility, and acceptability that hinder effective adolescent health service delivery.

A deeper examination of these utilization patterns reveals that despite efforts to establish youth-friendly health initiatives, many adolescents remain underserved due to barriers at multiple levels. Structural and facility-related constraints such as long waiting times, inadequate privacy, and shortages of adolescent-trained health professionals contribute to service underutilization. Additionally, societal and cultural norms that stigmatize adolescent access to sexual and reproductive health services further discourage young people from seeking care. These challenges reinforce the need for tailored interventions that address the complex interplay of personal, familial, community, and systemic factors limiting AYFHS uptake.

The substantial heterogeneity identified in the included studies suggests that AYFHS utilization varies significantly across different geographical and socio-economic contexts in Ghana [2]. This variation underscores the importance of localized health policies

that cater to the unique needs of adolescents in diverse settings. Rural adolescents, for instance, may face compounded barriers, including distance to facilities and lower levels of awareness, while urban youth may experience confidentiality concerns or judgmental attitudes from providers. By applying a random-effects model, this review accounts for such variability, enhancing the reliability of the prevalence estimate. Moreover, the absence of publication bias, confirmed by Egger's regression test, strengthens confidence in the findings by reducing concerns about selective reporting of positive outcomes.

The implications of these findings extend beyond individual health outcomes, linking directly to global development targets. AYFHS utilization plays a crucial role in achieving Sustainable Development Goal (SDG) 3 (Good Health and Well-being) by ensuring that adolescents have access to the preventive and curative services they need [9]. Additionally, given that gender-based barriers disproportionately affect adolescent girls, improving AYFHS aligns with SDG 5 (Gender Equality), empowering young women to take control of their health and reproductive choices [27]. Furthermore, comprehensive adolescent health education provided through these services contributes to SDG 4 (Quality Education), as well-informed adolescents are more likely to make safe and responsible health decisions that enhance their academic and personal development [8]

To bridge the utilization gap, urgent policy action is needed to integrate AYFHS more effectively into mainstream healthcare services. Expanding youth participation in the design and implementation of adolescent health programs can ensure that services are more responsive to the needs of young people. Additionally, addressing provider-related barriers through targeted training programs can enhance the quality of care, making health facilities more welcoming and non-judgmental for adolescents. Community-based interventions that engage parents, religious leaders, and educators are also critical in shifting societal perceptions and fostering an enabling environment for AYFHS utilization. Without strategic investments and coordinated efforts, the promise of youth-friendly health services will remain unrealized, limiting progress toward adolescent health and well-being in Ghana.

Personal and Family barriers to the utilization of AYFHS

The findings of this review emphasize that personal factors such as gender, education, religion and financial constraints significantly impact adolescents' utilization of Adolescent and Youth-Friendly Health Services (AYFHS) in Ghana. For instance, the study identifies gender as a critical determinant, with female adolescents facing unique barriers influenced by societal norms and expectations. These findings align with Adokiya et al. [5] and Amoadu et al. [8], who argue that conservative cultural settings often hinder young females from accessing sexual and reproductive health services. However, in contrast, a study conducted in Kenya by Nyblade et al. [37] reports a more equitable utilization pattern, attributed to targeted gender-inclusive interventions and campaigns. This disparity may reflect differences in policy prioritization and cultural settings, highlighting the need for Ghana to adopt similar gender-sensitive strategies. Religious beliefs, particularly within the Muslim context, can either encourage or discourage AYFHS utilization. Depending on the interpretation of religious teachings, some adolescents may feel compelled to seek sexual and reproductive health services, while others may abstain due to religious doctrines promoting abstinence before marriage [5, 8].

Education, or the lack thereof, significantly impacts adolescents'access to AYFHS. For instance, limited education often results in lower health literacy, affecting adolescents'ability to make informed decisions about their sexual and reproductive health [2, 32]. This education gap can perpetuate misconceptions and limit adolescents'understanding of available services, potentially deterring them from seeking AYFHS.

The review also reveals financial constraints as a significant barrier, particularly for economically disadvantaged adolescents. Adolescents from economically disadvantaged backgrounds may struggle to afford necessary services and contraceptives, making access to AYFHS a financial burden [2, 23]. These findings contrast with reports from South Africa [35], where government subsidies and free services mitigate financial challenges. The differences may stem from Ghana's limited resource allocation for adolescent health services, suggesting that policies such as subsidized or free AYFHS could enhance accessibility for low-income populations.

Family-related factors, on the other hand, underscore the critical role of parental support and attitudes. Parental support can be a strong motivating factor for adolescents to seek AYFHS [2, 7]. Supportive parents are more likely to encourage open conversations about sexual health and facilitate access to services [2]. Conversely, negative parental attitudes and the requirement for parental or guardian consent can act as substantial deterrents. Parents often hold considerable sway over adolescents'decisions, so fostering a supportive and understanding family environment is crucial for improving AYFHS utilization among young individuals.

These findings carry practical implications for healthcare policies and interventions in Ghana.

Recognizing and addressing these personal and family-related factors is essential. Culturally sensitive and gender-inclusive approaches are imperative for bridging gender disparities in AYFHS utilization. Targeted educational campaigns should aim to improve health literacy and raise awareness among adolescents and their families about the importance of AYFHS. Reducing financial barriers through subsidized or free services can make AYFHS more accessible to economically disadvantaged youth. By acknowledging and addressing these multifaceted factors, Ghana can make significant strides toward achieving Sustainable Development Goals related to sexual and reproductive health and overall well-being.

Facility and healthcare-related provider-related barriers to the utilization of AYFHS

Shortages of essential medicines and supplies within healthcare facilities have been identified as significant barriers to the utilization of Adolescent and Youth-Friendly Health Services (AYFHS) in Ghana. Adolescents often expect healthcare facilities to meet their medical needs, and when this expectation is unmet, it can lead to dissatisfaction and a reluctance to seek future care [2]. This finding aligns with studies from other low- and middle-income countries (LMICs), such as Ethiopia and Kenya, where similar challenges have been reported [21, 26]. In Kenya, for instance, inadequate stock of essential contraceptives and medicines was a significant deterrent for adolescents seeking sexual and reproductive health services, mirroring the frustrations reported in the Ghanaian context.

Long waiting times and inconvenient operating hours also discourage AYFHS utilization. Adolescents often juggle multiple responsibilities, including school and work, making accessibility and convenience critical factors in their healthcare-seeking behavior [2]. Similar findings have been observed in Malawi, where adolescents cited inflexible operating hours as a key barrier to accessing healthcare [38]. However, some interventions, such as extending facility hours or offering school-based health services, have shown promise in improving accessibility in other settings [30]. Ghana could benefit from adopting such strategies to enhance service availability and utilization.

Provider-related factors, such as negative attitudes and breaches of confidentiality, further exacerbate barriers to AYFHS utilization. Adolescents who experience judgmental or dismissive behavior from healthcare providers often feel unwelcome and avoid seeking care [8, 21]. Studies from Nigeria and Uganda similarly highlight how provider attitudes can undermine trust and discourage adolescents from accessing services [17, 36]. In contrast, countries that prioritize training for healthcare providers in adolescent-friendly communication and nonjudgmental care, such as Rwanda, have reported improved client satisfaction and service uptake [20]. Ghana's healthcare system could benefit from implementing similar training programs to ensure that providers deliver empathetic, respectful, and confidential care.

Addressing these facility and provider-related barriers is critical for improving AYFHS utilization in Ghana. Key steps forward include ensuring consistent availability of essential medicines, optimizing facility operating hours, and providing comprehensive training for healthcare providers. By drawing lessons from other LMICs and tailoring these interventions to the Ghanaian context, the country can create a more inclusive and supportive environment for adolescents. Such efforts could lead to enhanced AYFHS utilization, ultimately promoting better sexual and reproductive health outcomes among young people in Ghana.

Community and societal-related barriers to the utilization of AYHFS

Community and societal norms play a pivotal role in shaping adolescents'and youths'decisions regarding the utilization of Adolescent and Youth-Friendly Health Services (AYFHS) in Ghana. Cultural, religious, and educational factors heavily influence their behaviors and attitudes [7, 21]. Traditional customs and values often stigmatize discussions about sexual health, causing shame or reluctance to access services [8, 33]. This cultural hesitation aligns with findings from studies in Nigeria and Kenya, where similar stigmatization has been observed, often preventing open dialogues about sexual health and perpetuating myths about AYFHS [17, 26]. However, in countries like Rwanda, cultural barriers have been mitigated through culturally sensitive outreach programs, highlighting the potential of culturally tailored interventions to improve service utilization [20].

Religious doctrines emphasizing abstinence and condemning premarital sex further restrict adolescents'access to sexual and reproductive health services. For example, in Ghana, religious beliefs often associate the use of contraception with promiscuity, discouraging its uptake [3, 8]. This aligns with studies in Malawi and Uganda, where religious teachings similarly dissuade adolescents from seeking reproductive health services [36, 38]. However, contrasting evidence from Ethiopia suggests that collaborative efforts between religious leaders and health practitioners can reduce these barriers by integrating health messages with religious teachings [30].

The lack of comprehensive sex education compounds these challenges, leaving adolescents uninformed about their sexual and reproductive health rights and options [2, 3]. This gap mirrors findings from Zambia and Tanzania, where limited education perpetuates misinformation about AYFHS [21]. By contrast, countries like South Africa, which have implemented school-based comprehensive sex education programs, report higher levels of adolescent awareness and improved health outcomes [40].

To overcome these community and societal barriers, Ghana must adopt multi-pronged strategies. Comprehensive sex education programs tailored to cultural and religious contexts can provide factual information while respecting traditional values. Community engagement and awareness campaigns should foster open discussions about sexual health, addressing stigma and misconceptions. Lessons from Ethiopia and South Africa suggest that involving community and religious leaders in these initiatives can further promote acceptance and utilization of AYFHS. By addressing these barriers, Ghana can create a supportive environment that encourages adolescents and youth to access AYFHS, ultimately improving their sexual and reproductive health outcomes.

Limitations in this review and recommendation for future studies

This review focused on only qualitative and cross-sectional studies which might reduce the volume of included studies. Furthermore, the authors focused on only studies published in the past decade. This situation might further reduce the volume of papers included in this review. Reviewed studies were from only three out of the 16 administrative regions in Ghana. This situation may compromise the generalisation of the review findings to entire adolescent groups in Ghana. It is also noteworthy that, using only the meta-analysis was based on findings from cross-sectional surveys which are relatively compromised by bias response due to self-response measures. However, the authors appraised all included studies using well-established tools. The authors also ensured robustness through thorough search, screening, data appraisal, and extraction process which may contribute to enriching the evidence from this synthesis. Improved study designs such as randomised controlled trials, and cohort and longitudinal designs are encouraged for future studies and synthesis. Also, cross-sectional survey researchers are encouraged to use more validated measures. Moreover, studies utilizing national representatives of adolescent samples from both in-school and out-school should be encouraged.

Implications for research and practice

The findings of this systematic review highlight the critical gaps in the utilization of adolescent and youth-friendly health services (AYFHS) in Ghana, with only 42% of adolescents accessing these services. This underutilization signals the urgent need for a holistic response that bridges research, practice, and policy to improve access and uptake. While numerous barriers—including personal, familial, facility-based, and societal factors have been identified, addressing these challenges requires a multifaceted and contextually relevant approach. Without intentional interventions, many adolescents will remain underserved, exacerbating disparities in healthcare access and long-term health outcomes.

From a practical standpoint, improving adolescent healthcare requires targeted strategies that directly address the personal and social barriers hindering AYFHS utilization. Personal factors such as gender norms, religious beliefs, and financial constraints significantly shape adolescents'healthcare-seeking behavior. Gender disparities, for instance, disproportionately affect adolescent girls, who often face stigma when seeking sexual and reproductive health services. To counteract these challenges, healthcare practitioners must implement gender-responsive programs that empower adolescents, particularly young girls, to access care without fear of discrimination. Additionally, given the strong influence of religious and community beliefs on adolescent health behaviors, partnerships with religious leaders and community organizations should be fostered to promote culturally sensitive health education. Without active engagement with these social structures, interventions may be met with resistance, limiting their effectiveness.

Healthcare facility-related barriers, such as long waiting times, lack of confidentiality, and provider biases, further discourage adolescents from seeking care. While some facilities have attempted to adopt adolescent-friendly services, many still fall short in ensuring a welcoming and judgment-free environment. To enhance service quality, health facilities must prioritize reducing wait times, maintaining consistent medication availability, and implementing strict confidentiality protocols. Healthcare workers, in particular, require continuous training in adolescent-sensitive care, not only to improve their interactions with young clients but also to address unconscious biases that may discourage adolescents from returning for services. Without such structural improvements, the mere availability of AYFHS will not translate into increased utilization.

From a policy perspective, the study prompts the need for a more comprehensive and well-funded national framework to improve adolescent health services. While Ghana has existing adolescent health policies, their weak enforcement and lack of financial commitment have limited their impact. The government must prioritize adolescent health as a public health imperative by integrating AYFHS into national healthcare financing mechanisms, such as the National Health Insurance Scheme (NHIS). Cost has been identified as a major barrier to service utilization, and eliminating or subsidizing fees for adolescent-specific health services would improve access, especially among low-income youth. Additionally, there is an urgent need to institutionalize comprehensive sexuality education (CSE) in schools to enhance adolescents' knowledge and confidence in seeking health services. If left unaddressed, misinformation and cultural stigma surrounding adolescent health will continue to deter young people from utilizing these essential services.

The implications for research point to the necessity of further exploration of AYFHS utilization patterns in Ghana. Existing studies primarily focus on identifying barriers, but few delve into how socio-cultural and systemic factors interact to influence healthcare access. Future research should employ intersectional approaches that consider how factors such as gender, socio-economic status, and geographic location shape adolescents' experiences with health services. Additionally, there is a growing need for implementation science studies to evaluate the effectiveness of current AYFHS interventions. Are existing youth-friendly models truly addressing adolescent needs, or are they merely theoretical frameworks with limited real-world impact? Research must shift toward outcome-driven evaluations that assess the actual effectiveness of policies and interventions in improving adolescent health outcomes.

Conclusion

This systematic review provides valuable insights into the utilisation of AYFHS in Ghana, revealing a prevalence rate of approximately 42%. Personal, family, facility, provider, and community-related factors collectively shape AYFHS utilisation. Personal factors, including gender, religious beliefs, education, and financial constraints, influence access patterns, while family support and attitudes further impact adolescents'decisions. Facility-related challenges, such as shortages of medicines and long waiting times, coupled with provider-related factors like negative attitudes and lack of confidentiality, present additional barriers. Moreover, community and societal norms, rooted in cultural, religious, and educational factors, play a substantial role in influencing utilisation patterns. To enhance AYFHS utilisation in Ghana and align with Sustainable Development Goals, comprehensive, culturally sensitive interventions, including improved access, education, and awareness, are essential. Furthermore, future research should focus on robust study design such as randomised controlled trials and longitudinal studies and broader geographical representation to strengthen the evidence base for policy and program development in this critical area of adolescent and youth health.

Abbreviations

AYFHS	Adolescent and youth-friendly health services
DFA	Dorcas Frempomaa Agyare
MA	Mustapha Amoadu
MeSH	Medical subject headings
PRISMA	Preferred reporting items for systematic reviews and meta-analyses
PICO	Population, intervention, comparison, and outcome
PO	Paul Obeng
SSA	Sub-Saharan Africa
STIs	Sexually transmitted infections
UNICEF	United Nations international children emergency fund
WHO	World Health Organisation

Supplementary Information

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Additional file 1

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Author contributions

NEB, KEB and SB conceptualised the study. NEB, MA, PO, AK, SAA, DFA and JAB designed the study, collected and analysed the data, and wrote the initial draft. KEB and SB supervised the work. All authors read and approved the final version of the manuscript for publication.

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