Kabelka *et al. Reproductive Health* (2025) 22:205
https://doi.org/10.1186/s12978-025-02124-9

Reproductive Health

RESEARCH Open Access

Adolescents' and young people's perspectives on school-based sexuality education in low- and middle-income countries: a scoping review

Hannah Kabelka[1,2*], Maryse Kok[3,4], Kathleen Chau[5], Leonie Werner[5], Henny Bos[2] and Marielle Le Mat[1]

Abstract

Background Sexuality education plays a crucial role in supporting adolescents' and young people's (AYP's) health, well-being and gender equality and is increasingly recognised in global policies. In low- and middle-income countries (LMICs), research has raised concerns about the availability and sub-optimal implementation of sexuality education, yet few studies address these concerns considering AYP's views. This limits insights for developing relevant and effective sexuality education programmes that can support AYP in their journey to adulthood. This review explores AYP's perspectives on school-based sexuality education in LMICs.

Methods A scoping review was conducted across five academic databases and key stakeholder websites, identifying studies published between 2013 and 2024 in English. Following screening and systematic data extraction, 66 studies were included. Findings on characteristics of studies, AYP's perspectives on needs, experiences and preferences related to sexuality education content and delivery, as well as socio-ecological influences were synthesized using a narrative approach.

Results The review found that while AYP across LMICs generally expressed high needs for school-based sexuality education, these often remain unmet. AYP consistently reported dissatisfaction with sexuality education as they wish for education that extends beyond cognitive learning about biology and negative implications of sexuality, to include more comprehensively its emotional, physical, and social aspects. Participants' age, gender and urban or rural residence influence delivery preferences. Gaps in participatory, inclusive, and empowering education approaches reinforce gender norms, exclude diverse identities, and fail to address the specific needs of adolescent girls, young women, and marginalized youth. The review underscored the scarcity of research on AYP's perspectives regarding age- and context-appropriateness, inclusivity of content, and regarding delivery formats. Studies from certain geographic regions and focusing on younger adolescents, youth with diverse social identity markers and those living in rural areas were especially underrepresented.

*Correspondence:
Hannah Kabelka
h.kabelka@kit.nl

Full list of author information is available at the end of the article

Conclusions For the first time, this article synthesizes direct AYP perspectives on school-based sexuality education, while also pointing to remaining knowledge gaps when capturing views of AYP in LMICs. Concerted efforts are needed to diversify research, calling for more rigorous, inclusive and youth-participatory research efforts to inform sexuality education policies and programmes that are responsive to AYP's needs.

Plain Summary

Sexuality education is essential for adolescents' and young people's health, well-being, and rights. While recognized in policies worldwide, gaps remain in its implementation. This review explores youth perspectives on school-based sexuality education in low- and middle-income countries to understand their needs, experiences, and preferences.

A scoping review was conducted across five academic databases and key stakeholder websites, identifying 66 relevant studies published between 2013 and 2024. The review found strong support for school-based sexuality education but noted that many programmes fail to meet adolescents' and young people's needs. Current curricula often emphasize biology and risks including early and unintended pregnancy and sexually transmitted infections while neglecting emotional, physical, and social aspects of sexuality. Teaching approaches are frequently not fullyinclusive, and marginalized groups, -such as adolescent girls, youth with disabilities and LGBTIQ+ youth -face additional barriers. Many young people want more interactive and engaging teaching methods.

The review also highlighted a lack of research on how learners perceive the appropriateness and inclusivity of sexuality education content and delivery. Certain groups, including younger adolescents, youth with diverse identities, and those in rural areas, remain underrepresented in studies, particularly in some geographic regions. More inclusive, youth-participatory research is needed to inform policies and programmes that better reflect the needs and realities of all adolescents and young people.

Keywords Sexuality education, Health and wellbeing, School-based programmes, Education policy, Adolescent and youth perspectives, Youth participation, Low- and middle-income countries

Background

With the global youth population at an all-time high, adolescents and young people (AYP) aged 10—24 face a myriad of social, health, economic and environmental challenges in the twenty-first century [1–3]. The role of sexuality education in advancing towards AYP's health and social development is increasingly recognised in policy and legal frameworks worldwide [4]. Comprehensive sexuality education (CSE) is a curriculum-based process of teaching and learning that covers the cognitive, emotional, physical and social aspects of sexuality, aiming to equip AYP with knowledge, skills, attitudes and values that will empower them to realise their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others; and understand and ensure the protection of their rights throughout their lives [5]. Acknowledging that reaching consensus on what can be deemed as 'comprehensive' may neither be possible nor desirable [6], that many countries do not implement fully comprehensive sexuality education and that countries use different terms and curricula to implement programmes, this paper refers to sexuality education as a broad umbrella term while employing context-specific terminology when discussing individual studies.

When designed and implemented appropriately, sexuality education has been shown to reduce risk factors for poor sexual and reproductive health and rights (SRHR) such as early and unintended pregnancy (EUP) as well as sexuality transmitted infections (STIs) including HIV/AIDS, foster gender equality, help create safer learning environments and decrease discrimination and violence [5, 7–10]. The development of social-emotional and other transferable skills furthermore shapes healthy and productive citizens [9]. However, in practice, research has shown that sexuality education is not always effective due to inadequate facilitator training and skills, limited resources, rigid curricula, weak integration of gender and power dynamics, resistance from cultural and political stakeholders, a narrow focus on biological risks over psychosocial factors, and/or lack of participatory teaching methods [11–14]. Marginalised AYP experience additional barriers to receiving sexuality education that meets their needs. These barriers often relate to access, stigma, sociocultural taboos, discrimination, violence and bullying [15], and the lack of policies and curricula to address relevant content, for example, related to sexual orientation, gender identity and expression [16], HIV status [17] or disability [18].

While significant research has been conducted on the effectiveness of sexuality education, existing literature is often outcome-centered rather than focused on AYP's first-hand accounts of their needs, experiences and preferences. Centering youth perspectives in sexuality education research is essential for designing policies and programmes that reflect their realities and respond to their needs. Recognizing their opinions will not only ensure that sexuality education is evidence-based and

context-appropriate but might also challenge adult-driven assumptions about what is relevant in sexuality education. Reviews directly centering youth voices draw largely on high-income contexts [19–22], some of which focus exclusively on qualitative studies [19, 20]. Given the distinct sociocultural, political, economic, and institutional contexts of low- and middle-income countries (LMICs) [23], it is important to better understand AYP's perspectives on sexuality education in these settings. Sexuality education in LMICs is often influenced by international funding streams and policy agendas, which can contribute to both opportunities and resistance [24]. While such support facilitates programme implementation, it may also fuel opposition, particularly from actors who perceive it as an externally imposed agenda. In many LMICs, there remains a noticeable gap between adolescent and youth perspectives and policy-making, primarily due to systemic, socio-cultural and financial barriers that hinder meaningful youth engagement and can contribute to intergenerational misunderstandings of AYP's needs and interests [25]. These dynamics highlight the importance of capturing AYP's own voices and perspectives to ensure that sexuality education policies and programmes are not only evidence-based but also contextually relevant and responsive to their lived realities.

This review addresses the question: What does the existing literature reveal about the needs, experiences, and preferences of AYP regarding school-based sexuality education in LMICs, and what knowledge gaps remain for future research? Specifically, it examines adolescent and youth perspectives on both content and delivery of sexuality education in formal education, as schools provide a structured and accessible platform for reaching large numbers of learners. While beyond the scope of this study, we acknowledge the importance of out-of-school approaches in ensuring inclusive and contextually relevant sexuality education that leaves no one behind.

Methods

Scoping reviews have emerged as a suitable method for providing a comprehensive synthesis of the available evidence related to a relatively broad question in a rigorous and transparent way, and – as applied in this study – are being used to explore key concepts, data and evidence gaps as well as to inform future research priorities [26, 27].

Search strategy

Given the multidisciplinary nature of the topic and with the aim of comprehensive coverage of recent literature, the search was conducted in five databases, namely PsycInfo, Medline, ERIC, Web of Science Core Collection and SocINDEX. The search included documents in English published between 2013 and December 2024.[1] Scientific studies, qualitative, quantitative or mixed-methods in nature, and grey literature, such as research reports and evaluations produced outside scientific publishing channels were included. The review focused on the perspectives of AYP aged 10–24 on school-based sexuality education in LMICs, following the World Bank Open Data Catalog classifications of 2023. The search focused on studies capturing sexuality education that was delivered in schools -integrated into core subjects, offered as standalone courses, or provided through extra-curricular activities by the government or non-governmental organisations (NGOs).

The scoping review did not focus on outcomes or impact, but rather on AYP's perceptions of school-based sexuality education, shedding light on perceived quality and recommendations for improvement. To answer the research question, documents had to include findings related to at least one of the components related to AYP perspectives, namely self-reported needs, experiences, preferences or recommendations. Older studies, books, documents without firsthand youth perspectives or focusing on AYP from high-income countries, or studies that did not disaggregate adolescent and youth perspectives from those of adult stakeholders such as teachers or parents; as well as studies relating to sexuality education outside the school system were excluded.

The search was adjusted per search engine, applying a comprehensive set of search terms across four key concepts: (1) sexuality education, (2) AYP's perspectives, (3) LMICs, and (4) school-based education. The search strategy combined controlled terms (e.g., MeSH terms such as "sex education/") and free-text keywords (e.g. youth perspectives), using Boolean operators (AND/OR) and proximity operators (e.g. ADJ7). The full search strategy, including all terms and filters, is detailed in Additional File 1.

The search yielded 1.536 results, and as illustrated in Fig. 1, after deduplication the review considered 865 results. Informed by initial screening against the inclusion criteria on the basis of title and abstract or document summary using Rayyan, 798 documents were excluded. The remaining 67 studies were successfully retrieved and assessed for eligibility. An additional 7 studies were added resulting from hand search, including a grey literature search via key stakeholders' websites, including UN agencies, international NGOs, and civil society. As the full texts of 74 documents were read, 8 studies were excluded. Details can be found in Fig. 1. Studies were not excluded based on quality, as the review aimed to capture

[1] The search was originally conducted in 2023, covering a 10-year time scope (2013–2023) to capture the most recent research. In 2024, the search was updated to ensure the inclusion of the latest findings.

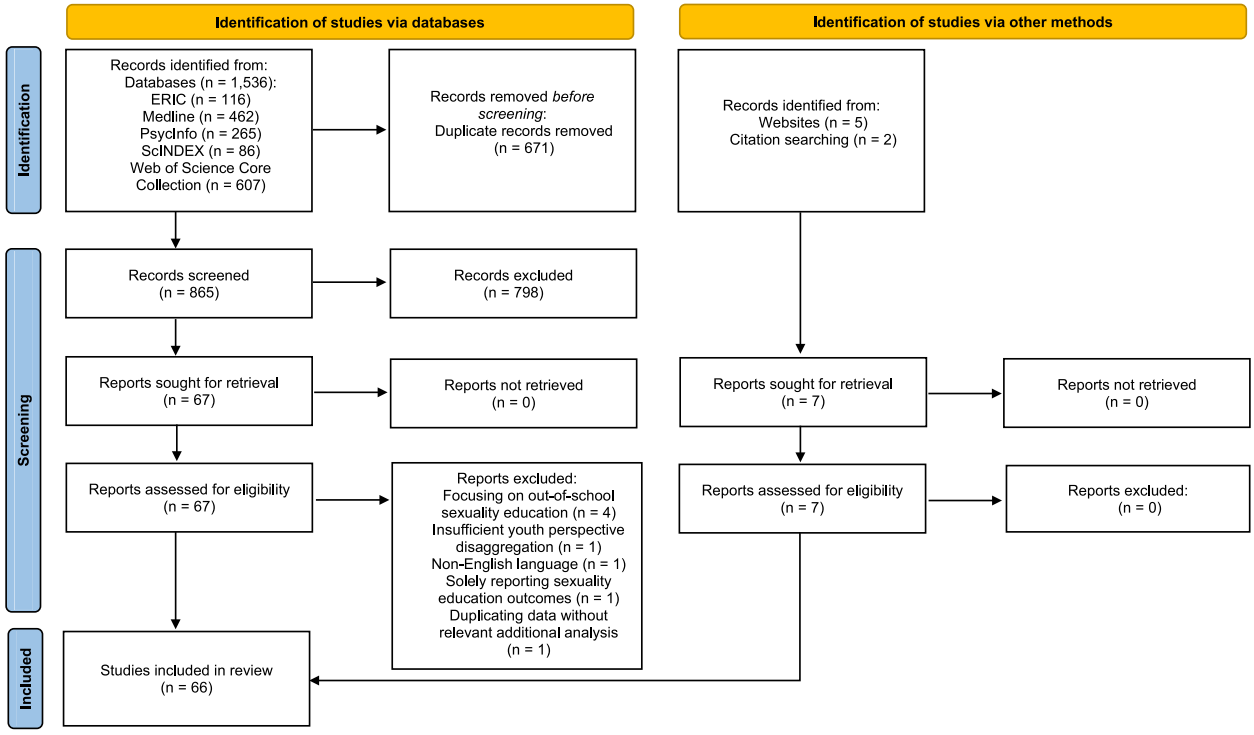

Fig. 1 PRISMA Flow Diagram

the broad range of available literature. The search, screening and eligibility assessment were undertaken jointly by one author and a librarian. This resulted in the inclusion and data extraction of a total of 66 studies (see Additional File 2), including 60 scientific peer-reviewed articles and 6 grey literature reports.

Data extraction

A structured data extraction approach was employed to systematically capture key characteristics of and findings from studies. Three authors co-created and piloted the data extraction sheet on 15 studies, with refinements made following discussions. Remaining data extraction was conducted by a single author.

The extraction sheet included study details (publication year, country setting of sexuality education implementation, study type, design and methods), participant demographics (age, sex, social identity markers and school status), and educational context (urban/rural setting, sexuality education terminology, and curriculum details).

A concept map illustrating the extraction of key findings related to AYP's perspectives on school-based sexuality education is presented in Fig. 2. The extraction captured overall needs where AYP expressed support for the existence, benefits, or expansion of school-based sexuality education, based on its perceived value. Drawing from concepts[2] and standards highlighted in the UN International technical guidance on sexuality education (ITGSE) [15], AYP's perspectives concerning sexuality education content were assessed along preferred topics as well as comprehensiveness, perceived relevance, inclusivity, gender sensitivity, rights-based premises as well as age- and context-appropriateness. Related to sexuality education delivery, categorisations of AYP's experiences and preferences used included stand-alone or integrated modality; sex-segregated or mixed classrooms; timing and frequency of programmes; the role of the educator, including their knowledge, attitudes and skills; teaching methods, materials and interactions; as well as confidentiality, privacy and safe environments [15]. Finally, acknowledging that curricula and implementation are embedded in wider socio-ecological contexts [28, 29], education system factors, socio-cultural and political influences on AYP perspectives were documented. While scoping reviews do not traditionally assess study quality, a brief appraisal of study limitations was conducted.

Given the heterogeneity of study designs and data types, a narrative synthesis approach was applied to summarize key findings and to identify common themes, gaps, and contextual variations in AYP perspectives on school-based sexuality education in LMICs.

[2] The eight key concepts include Relationships; Values, Rights, Culture and Sexuality; Understanding Gender; Violence and Staying Safe; Skills for Health and Well-being; the Human Body and Development; Sexuality and Sexual Behaviour; and Sexual and Reproductive Health [15].

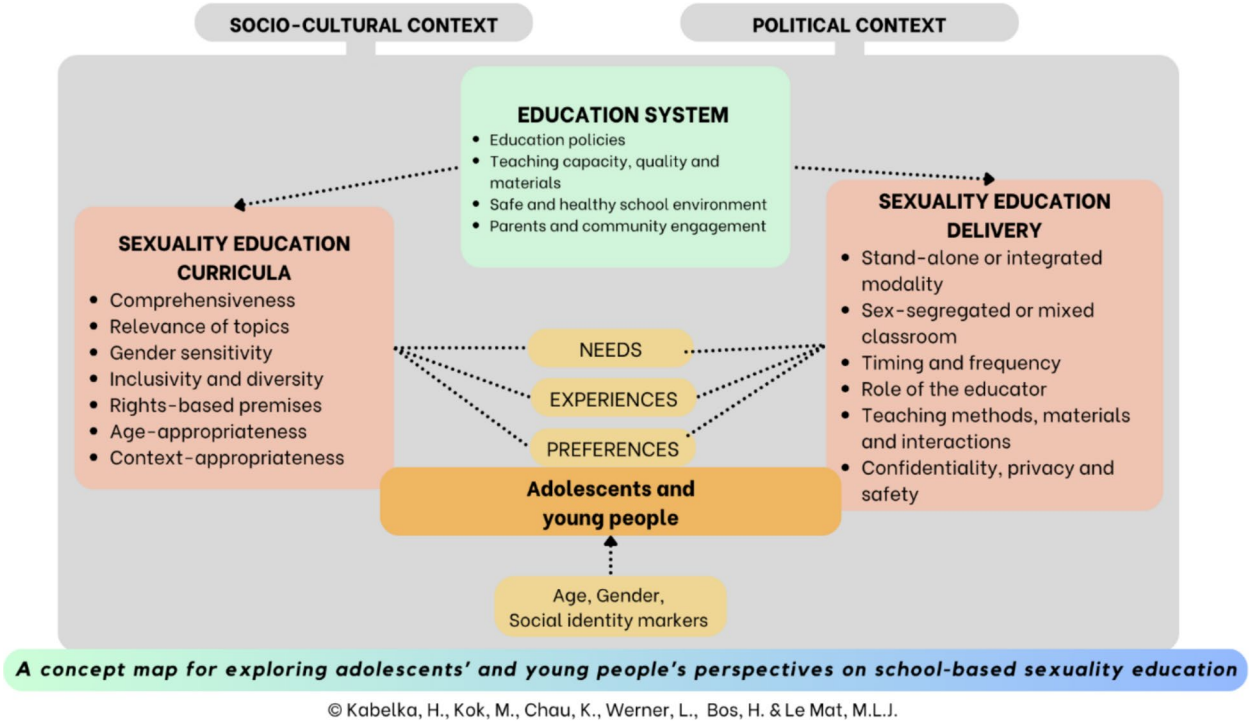

Fig. 2 Concept map

Results

Characteristics of included studies

As illustrated in Table 1, in which the numbers correspond to the citation numbers in the reference list, the analysis reveals a strong geographical bias in the reviewed studies, likely affected by the search conducted in English language only. Sub-Saharan Africa ($n = 42$) - particularly because of 14 studies from South Africa - is overrepresented, followed by Asia–Pacific ($n = 17$). Latin America and the Caribbean ($n = 7$) see limited coverage, while the Middle East and Northern Africa ($n = 3$) as well as Eastern Europe and Central Asia ($n = 1$) remain severely underrepresented.

The review includes 43 qualitative, 12 quantitative, and 11 mixed-methods studies, although AYP perspectives in three of the latter mainly draw on the quantitative component. Most studies applied 'traditional' methods, i.e. focus group discussions and individual interviews or questionnaires, with only nine studies reporting on creative and participatory methods such as drawing [30, 72, 95], storytelling [31], dialogic engagement [32, 33], co-creation [34] or surveys [94] using digital platforms or the use of a 'Pleasuremeter' tool [35]. Only seven of 66 studies reported on the involvement of youth researchers, in authorship [73], participatory action research [30], co-design approaches [34], as data collectors [35–37] or with recognition as collaborators [38].

Most AYP were in (primary or secondary) school during data collection ($n = 49$). The review shows that most studies center the voices of learners of 16–19 years ($n = 60$), while adolescents aged 10–12 are least represented (n = 18). The majority of studies included male and female participants ($n = 57$), with few focusing specifically on adolescent girls or young women [32, 39, 91] or adolescent boys and young men [73]. Two thirds of studies reported on at least one other social identity marker of participants, regarding AYP's disability [40, 41, 74], ethnic identity [42–44, 74, 75], racial background [32, 38, 45–47, 87], religion [37, 42, 43, 48–51, 76–78, 92, 96], socio-economic status [30, 32, 37, 49, 51–53, 75, 77, 79, 87, 92], sexual orientation and gender identity [47, 72, 74, 80], HIV status [31, 35, 54], migration status [74, 88], ever being pregnant [55–57, 89] or current relationship status [57], living situation [48, 58, 59], ever been abducted [57] or diverse parental background characteristics [73, 74, 88, 91]. Overall, few offered disaggregated/comparative analysis based on these characteristics, while some focused exclusively on specific groups such as AYP living with HIV [54], lesbian, gay, bi, trans, intersex and queer (LGBTIQ+) learners [47, 80, 97], young parents [30, 89], racial minority learners [46] and AYP with intellectual [40] or physical disabilities [41]. Out of the studies reporting on location ($n = 44$), most included urban and rural settings ($n = 22$), while four times as many studies focused specifically on urban youth ($n = 16$) compared to rural AYP ($n = 4$). The majority of studies ($n = 39$) reported that the Ministry of Education designed, and teachers delivered the curriculum, while nine studies reported on

Table 1 Descriptive characteristics of included studies ($n = 66$)

	# of studies	% of studies	Studies
Region			
Sub-Saharan Africa	42	63.6%	[30–71]
Asia–Pacific	17	25.8%	[34, 71–86]
Latin America and the Caribbean	7	10.6%	[34, 44, 71, 87–90]
Middle East and Northern Africa	3	4.5%	[91–93]
Eastern Europe and Central Asia	1	1.5%	[94]
Study designs			
Qualitative	43	65.2%	[30–33, 35–41, 45–47, 51–56, 59–61, 63–71, 73, 78–80, 83, 84, 87–89, 92, 95]
Quantitative	12	18.2%	[43, 48, 50, 58, 62, 76, 77, 81, 82, 88, 93, 94]
Mixed-methods	11	16.7%	[34, 42, 44, 57, 72, 74, 75, 85, 90, 91, 96]
Use of creative and participatory research methods	9	13.6%	[30–35, 72, 94, 95]
Involvement of youth as co-researcher	7	10.6%	[30, 34–38, 73]
Participant characteristics			
Currently in (primary or secondary) school	49	74.2%	[30–32, 37–40, 42, 44–53, 55–64, 66–70, 72, 75, 76, 78, 79, 83–85, 87–91, 93, 95, 96]
Retrospective reporting	6	9.1%	[33, 65, 73, 81, 82, 92]
Mix of educational backgrounds	6	9.1%	[35, 36, 74, 77, 80, 94]
Educational background not specified	3	4.5%	[34, 54, 71]
Aged 10–12	18	27.3%	[31, 32, 36, 41–43, 49–51, 59–61, 72, 85, 88, 90, 93, 95]
Aged 13–15	49	74.2%	[30–34, 36–39, 41–44, 48–53, 55–63, 66–68, 70, 72, 75–78, 80, 81, 83–85, 87, 88, 90, 91, 93–95]
Aged 16–19	60	90.9%	[32–48, 50, 52–60, 62–70, 72–83, 85, 87–97]
Aged 20–24	20	30.3%	[33–35, 40, 58, 63, 65, 67, 69, 73–75, 81, 83, 85, 87, 90, 92, 94, 97]
Male and female participants	57	86.4%	[30, 31, 35–38, 40–43, 45, 46, 48, 49, 51–60, 62–70, 72, 74–79, 81–85, 87–90, 92–97]
Female participants only	3	4.5%	[32, 39, 91]
Male participants only	1	1.5%	[73]
Sex not specified	6	9.1%	[33, 34, 44, 47, 61, 80]
Reporting on at least one additional social identity marker (disability, ethnic identity, socio-economic status, religion, ethnic or racial identity, sexual orientation and gender identity, record of abduction, pregnancy, HIV status, living situation, relationships status and/or parents' background characteristics)	42	63.6%	[30–32, 34, 35, 37, 38, 40–49, 51–59, 72–80, 87–89, 91, 92, 96, 97]
Urban setting	16	24.2%	[39, 40, 45, 50, 54, 58, 61, 75, 76, 78–82, 89, 92]
Semi-urban setting	2	3.0%	[32, 42]
Rural setting	4	6.1%	[55, 60, 66, 70]
Participants from mixed settings	22	33.3%	[31, 36, 37, 41, 44, 46–49, 51, 57, 59, 62, 63, 68, 72, 73, 77, 85, 88, 90, 91]
Setting not specified	22	33.3%	[30, 33–35, 38, 43, 52, 53, 56, 64, 65, 67, 69, 74, 83, 84, 87, 93–97]
Sexuality education programme			
Ministry of Education-led	39	59.1%	[30, 32, 33, 36–38, 40–42, 44–47, 49, 51, 52, 54–57, 59–61, 63–65, 67, 68, 72, 75, 76, 78–80, 82, 84, 85, 87]
School-based NGO-led	9	13.6%	[31, 35, 48, 49, 53, 66, 69, 70, 96]
Mix of programmes	4	6.1%	[39, 73, 90, 95]
Curriculum not specified	14	21.2%	[30, 34, 43, 50, 58, 74, 77, 81, 83, 91–94, 97]

NGO-led curricula in schools and four included a mix of programmes.

As summarised in Table 2, the review shows that the majority of studies centering AYP voices focus on aspects related to the comprehensiveness and relevance of sexuality education content ($n = 52$), educators' characteristics, knowledge, attitudes, and skills (n = 43), as well as overall attitudes toward school-based sexuality education or experiences with specific sexuality education topics (n = 33 each). Additionally, teaching methods and

Table 2 AYP's perspectives on specific components of school-based sexuality education ($n = 66$)

	# of studies	% of studies	Studies
Overall attitudes toward school-based sexuality education	33	50%	[31, 35, 38–41, 47–50, 52, 57, 60–63, 65, 73–77, 79, 81–83, 89, 90, 92–94, 96, 97]
Specific sexuality education topics	33	50%	[35, 37, 39, 40, 42, 44, 45, 47, 50, 52, 53, 57–60, 62–66, 72, 75, 79, 80, 82, 83, 85, 87, 89–92, 95]
Comprehensiveness and/or relevance of content	52	78.8%	[30–36, 38–44, 46, 47, 49, 50, 52–54, 57–63, 65–70, 72–74, 77, 80–83, 85, 87–93, 96, 97]
Gender-sensitivity, inclusivity and/or rights-based premises of content	21	31.8%	[30, 32, 33, 36–40, 42, 45–47, 53, 54, 63, 65, 73, 80, 83, 88, 89]
Age- and/or context-appropriateness of content	7	10.6%	[32, 55, 69, 75, 79, 88, 89]
Modality (Stand-alone vs. integrated, sex-segregated vs. mixed classroom, location of delivery, timing and frequency)	22	33.3%	[14, 31, 37, 38, 44, 49–52, 54, 57, 59–61, 63, 68, 83, 84, 89, 90, 92, 93]
The educator (Characteristics, knowledge, attitudes, skills)	43	65.2%	[30, 31, 37–49, 51, 52, 54–57, 59, 61, 63, 64, 66, 69, 70, 73–75, 77, 78, 80, 83, 84, 87, 88, 90, 91, 94, 95, 97]
Learning environment (Interactions in the classroom, safety, confidentiality)	31	47.0%	[30, 37, 39, 41, 44–47, 49, 51, 54–57, 59, 63, 66, 70, 72, 77–79, 81, 83–85, 89–91, 95, 97]
Teaching methods and/or materials	30	45.5%	[2, 10, 14, 16, 17, 20, 23, 25, 26, 28, 30, 32, 36, 40, 41, 43, 44, 46, 49, 72, 77–79, 87, 94]

materials (n = 30) and the learning environment ($n = 31$) also receive notable attention. However, significant gaps exist in research on the age- and context-appropriateness of content ($n = 7$). Furthermore, studies addressing AYP perspectives on experiences and preferences regarding gender sensitivity, inclusivity, and rights-based premises of sexuality education ($n = 21$) as well as delivery modality ($n = 22$) remain relatively limited. The presentation of findings follows the concept map (Fig. 2).

AYP express strong need for school-based sexuality education

Findings across studies and countries demonstrate a strong demand for school-based sexuality education among AYP from LMICs, with many perceiving it as essential for their well-being, decision-making or future opportunities [31, 35, 38, 52, 60, 61, 75, 81, 88–90, 92, 94]. Learners commonly associated sexuality education with staying in school, avoiding early marriage, and preventing unintended pregnancies, highlighting its perceived role in supporting educational attainment and preventing negative sexual and reproductive health (SRH) outcomes. Only one quantitative study from China reported that college students had mixed attitudes about school-based sexuality education, with some fearing it could encourage earlier sexual activity, others disagreeing, and the majority remaining uncertain [82].

Studies also found that AYP who had received sexuality education were significantly more likely to recognize its importance and advocate for its provision compared to their peers who had not received such education [48, 57, 62, 93]. At the same time, a qualitative study from South Africa found that students became increasingly resistant and disinterested in sexuality education when they felt it failed to provide meaningful learning, as it remained too simplistic—focusing on biological facts like virus transmission rather than advancing their knowledge holistically [37]. This suggests that while exposure to sexuality education may increase awareness of its relevance and importance, a curriculum that fails to provide meaningful education could lead to disengagement among students.

Variation in perceived needs for sexuality education is further influenced by several demographic factors. With regards to school levels, adolescents in Nigerian senior secondary schools, Tanzanian secondary schools or Lebanese middle schools were more likely to express a strong need for sexuality education compared to those in junior secondary school [48, 62], primary school [50] and lower grades [93] respectively, possibly due to their increasing exposure to relationships and social pressures. While studies from Ecuador and South Africa reported on similar support for sexuality education among urban and rural participants [63, 89], a quantitative study from Nigeria [62] found that rural adolescents expressed a greater need for school-based SRH interventions than their urban counterparts, which could reflect disparities in access to information and services. Findings from India reported no gender differences regarding perceived need for Family life education [77], while a qualitative study from Ethiopia observed girls demonstrating higher levels of engagement and valuing sexuality education more than boys, as reflected in their consistent attendance, participation, and advocacy for sessions [39].

While the reviewed studies concur that AYP express a need for and support of school-based sexuality education, several studies indicate that these needs were largely unmet due to insufficient or non- existent implementation [47, 57, 73, 77, 79]. The following sections explore how specific experiences with the content and delivery of

sexuality education shape to what extent AYP's needs are met or remain unmet.

AYP's perspectives on sexuality education content

This section explores AYP's experiences and preferences regarding the content of sexuality education, grouped for this analysis according to the ITGSE concepts [15]: Relationships; Values, Rights, Culture and Sexuality; Understanding Gender; Violence and Staying Safe; Skills for Health and Wellbeing; The Human Body and Development; Sexuality and Sexual Behaviour; and Sexual and Reproductive Health. It also reflects their perspectives on the overall comprehensiveness, relevance, inclusivity, and the extent to which programmes are gender- and rights-based, as well as age- and context-appropriate.

Sexuality education is perceived to emphasize biology and abstinence over relationships, rights, gender, and diversity

According to AYP from LMICs, the most consistently covered areas in school-based sexuality education are topics related to The Human Body and Development such as sexual and reproductive anatomy, physiology, menstruation and personal hygiene and puberty [34, 39, 42, 44, 60, 72, 79, 95]. Other commonly highlighted topics included those related to Sexual and Reproductive Health such as pregnancy and pregnancy prevention [64, 72, 87] — although often with an emphasis on abstinence following the ABCD (Abstain, Be faithful, Use a Condom Delay sexual initiation) model [39, 41, 46, 50, 58, 76, 77, 93, 98]. Across studies, perceived coverage of the topics related to STIs and HIV/AIDS transmission and prevention varied between frequent in Brazil, Ghana, Nigeria and South Africa [42, 59, 65, 87] and low in Guatemala and Thailand [44, 95]. Discussions on Skills for Health and Well-being such as self-esteem, decision-making, and communication skills were noted only in a mixed-methods study from Nigeria [42]. Understanding gender, including gender norms, gender equality and gender-based violence also appeared inconsistently covered [39, 44] or as de-emphasized [74]. Topics related to Relationships, such as self-esteem, love, friendship and family relationship [42, 74] as well as to Values, rights and culture [74] further seem to be minimally covered.

Some studies pointed out notably absent or under-represented topics, related to Sexuality and Sexual Behaviour including pleasure [44, 53, 58, 64], LGBTQ + identities [53, 58, 64, 95] and risk-related topics such as drugs, alcohol and abuse [31], diverse body images including physical disabilities [95], and the role of digital media in sexualities [42, 95].

AYP would prioritize learning about navigating relationships, consent and safety as well as sexuality; with preferences shaped by age, gender and other social identity markers

While The Human Body and Development tends to be the most reported concept covered, some studies also stressed that AYP would like to learn more about puberty and pubertal changes [36, 62, 80]. Other key areas of interest for additional or more in-depth learning expressed by AYP included contraception and safe sex practices [33, 35, 44, 62, 83, 96], including STI prevention [62, 83], particularly emphasizing the practical guidance on contraceptive use and accessing services.

While sexuality education programmes in LMICs seemingly tend to avoid direct teaching on sexuality and sexual behaviours, AYP from several studies voiced their curiosity about these topics, such as engaging in sexual activities [35, 63, 80, 99], including specific topics such as premarital sex [66, 91], transactional sex [67], masturbation and porn [33, 35], pain during sex [36] and diverse sexual orientations [36, 46, 47, 80]. In several studies, AYP suggested discussions on topics related to Relationships [35, 36, 44, 66] and emotions [63]. The preferences on topics regarding Skills for Health and Well-being, particularly on navigating consent and negotiating safe sex [33, 36, 44, 47] were frequently mentioned in direct connection with Violence and Staying Safe. Another commonality was that many participants highlighted their curiosity to learn about staying safe from violence and coercion [34, 40, 53, 62, 67, 74, 83, 88–90]. A mixed-methods study from Nigeria, India, the US and El Salvador further highlighted that AYP whose age at first sex was below 10 years were reported to be 2.3 times more likely to be interested in learning about how to say no [34]. In a mixed-methods study in the Dominican Republic and qualitative studies from China and South Africa, AYP highlighted a need to address mental health and emotional support, particularly for pregnant adolescents [90], AYP living with HIV [54] and in relation to social media pressure and self-esteem [83]. While few studies discussed specific interests around Understanding gender, adolescent males aged 10–14 years interviewed in Ghana were interested in perceived gender-based disparities, such as favoritism toward girls in schools and at home [36], pointing to gaps in critical gender literacy among AYP.

AYP's sexuality education interests varied by demographic background and identity markers. Studies showed that older adolescents generally prioritized a broader variety of topics, for instance when comparing responses of 10–13-year-olds with adolescents aged 14–16 regarding gender roles, sexual health and rights, relationships, diversity, and violence prevention in Ecuador [88]. In a Nigerian study, younger adolescents (11–13 years) reported more support for abstinence-only

teaching than respondents aged 14–19 years; [43, 50] and older youth among interviewees 15–24 years (no age specification provided) reported being more interested in improving sexual relationships and performance, as well as hiding or enhancing their gender or sexual identity in Thailand [80]. This suggests that cognitive and identity development as well as social exposure shape adolescents' preferences for sexuality education topics.

In Ecuador, female secondary school learners generally expressed higher needs for learning about CSE compared to boys surveyed [88]. In contrast,girls in Tanzania were less likely than boys to prioritize discussions on pleasure and decision-making [50]. While in Uganda, male secondary school learners expressed a need for self-control and refusal skills to abstain from sex, girls interviewed were more concerned about sexual harassment and pressure from boys to engage in sex [67]. Additionally, in Thailand, cis-gender young men prioritised clear and unambiguous sexual knowledge, straight young women focused on relationships and attractiveness, and LGBTQ + youth wanted to learn more about navigating identity and societal barriers [80]. Primary and secondary school learners with varied disabilities (visual, hearing, speech, physical, intellectual, and developmental) interviewed in a multi-country study including Botswana, Eswatini, Ghana, Malawi, Uganda and Zambia particularly stressed a need for content addressing self-esteem, the desire to feel accepted, and risks of sexual exploitation, abuse, and coercion [41]. These variations highlight how gendered social expectations, power imbalances and experiences of stigma, and differing levels of agency in sexual decision-making might affect AYP's preferences for sexuality education content.

Incomplete and 'out of touch' with AYP's realities: a call for more comprehensive, accurate and practical sexuality education

The review shows that while school-based sexuality education can successfully increase awareness and be considered informative by AYP, mostly in relation to education about human development and SRH [39, 68, 77], it has frequently been described as incomplete [36, 38, 42, 46, 53, 58, 59, 63, 64, 67, 73, 78, 87, 90, 96, 99]. Selective information, misinformation, and knowledge gaps risk leaving adolescents uncertain about their SRHR and well-being [38].

Framing it as a "discourse of disconnect" [65] or "out of touch" [32], adolescents from China, the Gambia, Nigeria and South Africa experienced their sexuality education largely as irrelevant to, or unhelpful in, their lives [30, 42, 63, 82, 99]. Even within HIV/STI prevention and contraception education, students seem to be more likely to learn factual information rather than practical skills needed to handle sexual pressures and real-life situations (e.g., how to use contraceptives or negotiate safer sex) [42, 44]. That learning is often perceived as inadequate has specifically been expressed amongst marginalized AYP, such as adolescents living with HIV in Uganda [60] and LGBTIQ + youth in South Africa and Thailand [47, 80].

Few studies offered qualitative insights of AYP positively assessing their sexuality education. AYP from Madagascar appreciated that the programme content complemented other sources of information about SRH while they considered the CSE programme covered this information in more depth, and at the opportune time [69]. Chinese students interviewed and AYP from Botswana, Eswatini, Malawi, Uganda, Zambia found the topics covered relevant to their needs, suggesting broad support for the curriculum [41, 83] – although the latter multi-country study distinguished that learners from Ghana felt that the content was not detailed enough to fully address their knowledge aspirations [41]. These experiences underscore that perceived relevance and in-depth learning enhance sexuality education's perceived effectiveness. Consequently, the review found a strong demand from AYP from LMICs for more comprehensive [31, 36, 38, 39, 44, 50, 53, 57, 63, 83, 88], accurate [36, 38, 67] and applicable [44, 89] sexuality education.

Concerns raised about fear-based and stigmatizing messages, gender bias, heteronormativity and structural inequalities in sexuality education

AYP reported that sexuality education teaching, particularly in relation to topics like abortion, sex and sexual diversity, and STIs including HIV, were predominantly framed in negative, problem-based, or risk-focused terms across countries [30, 33, 38, 47, 53, 58, 59, 65, 72, 95]. Few studies have focused on comparative analysis, however, a qualitative study from South Africa found that urban schools placed greater emphasis on broader sexuality issues, while rural schools focus more on HIV/AIDS education, reflecting a narrower, disease-prevention approach in rural areas [63].

Another prominent concern raised by AYP is the sexual gendered double standards embedded in sexuality education. Participants across a variety of study contexts, majority female, recalled moralist and prescriptive sexuality education teaching [37–39, 42, 46, 64, 65, 72, 73, 89], reinforcing gendered social and moral restrictions on adolescent sexuality. Examples include stereotypical framing of male and female sexuality, such as men having uncontrollable sexual urges and entitlement to sex and women as passive recipients of male sexual advances in Ethiopia [53] or the "onus of abstinence" falling mainly on girls in South Africa [38]. Male participants from Nigeria and South Africa reported lower access to sexuality education at schools [42, 63], reflecting gendered norms that

position girls as needing protection and boys as sexually autonomous.

Some AYP shared that lessons on gender equality helped them break down stereotypical attitudes toward relationships, marriage, and domestic responsibilities - particularly among boys in China [83]. A South African study stressed adolescents' accounts on sexuality education that framed sexuality in simplistic and deviant ways [37]. Adolescent girls interviewed in Ethiopia criticized that sexuality education primarily focused on violence in the home, making school-based violence harder for students to recognize and report [39]. The heteronormativity of sexuality education content has particularly been documented in studies with an intentional focus on LGBTIQ + youth perspectives from South Africa [32, 45–47] and Thailand [72, 80].

A qualitative study from China suggested that young people's sexuality education experiences were shaped by class-based school divisions, meaning that students in vocational schools perceived receiving less comprehensive and more stigmatizing sexuality education than their peers in other educational tracks [79]. Also, a qualitative study from South Africa concluded that Life Orientation classes missed to critically engage with how race and class shape experiences of sexuality, beauty, and empowerment [32]. This highlights the underused transformative power of sexuality education, as it often fails to address intersecting oppressions that shape AYP's experiences and opportunities.

Few studies included AYP's specific first-hand recommendations, some calling for a more gender-responsive approach to sexuality education [36], that reflects diverse identities and experiences in non-judgmental ways [47, 80] and frames sexuality in a sex-positive and empowering way [36, 38, 88, 98]. The latter has also specifically been voiced by AYP living with HIV in Tanzania [54] and learners with intellectual disabilities in Kenya [40].

Limited evidence on AYP's views on age- and context-appropriate sexuality education

Few studies have examined how AYP perceive the appropriateness of content covered in their sexuality education classes. A qualitative study in Botswana, Eswatini, Ghana, Malawi, Uganda and Zambia found that some primary school learners felt the content was too advanced and would be more appropriate for secondary school students [41]. Some students (14–19 years) from South Africa indicated feeling uncomfortable discussing sexuality-related topics with adults, which the authors of this study interpreted in relation to internalized parental views that they are too young for such discussions [56]. In contrast, adolescents (13–17 years) in a mixed-methods study from Myanmar emphasized that they did not think they were too young to know or learn about sexuality; and that they believed that all teaching was appropriate for their age [75]. Learners from the Gambia emphasized their preference for a staggered approach, recommending that some topics, such as puberty and menstruation, should be introduced in lower basic school, while broader sexuality education should continue in upper basic school to ensure age-appropriate learning [52]. These differences underscore the importance of phased and developmentally appropriate sexuality education that considers individual readiness. Notably, given the influence of international actors in shaping sexuality education policies in LMICs, an important research gap emerges as existing studies have largely overlooked how learners perceive the contextual appropriateness of such education.

AYP's perspectives on the delivery of sexuality education

This section synthesizes AYP's perspectives on how sexuality education in LMICs is delivered in schools, including reflections on the modality of delivery, the role and characteristics of the educator, the school-based learning environment, and the teaching methods used.

AYP's views on timing and frequency, subject integration, gender segregation and prioritisation of sexuality education

While the above section on age-appropriateness of content showed that AYP did not always feel comfortable with some topics, some AYP expressed concerns about the late introduction of sexuality education. Students from Uganda lamented that sexuality education was only taught in senior classes, excluding younger adolescents who might benefit from early exposure before real-life situations arise [60]. When it comes to preferences, 76% of Tanzanian primary school students and 66% of secondary school students surveyed believed that Sex and Relationships Education should begin in primary school, with Class 4 (around age 10) being the most frequently suggested starting point [50]. Tanzanian learners in another qualitative study proposed initiating sexuality education when puberty is reached [61] and Gambian learners emphasized a need before sexual debut [52]. These findings suggest AYP's preference for earlier, more timely sexuality education delivery.

Some studies highlighted AYP's challenges with sexuality education's integration into broader subjects. More than 40% of Bosnian and Herzegovinian and about 26% of Ugandan learners surveyed suggested sexuality education to be implemented as a standalone subject [53, 94]. These studies listed several possible improvement options beyond delivery modality, and thus do not indicate how many remaining learners preferred integration; rather they reflect that a substantial share of AYP interviewed argued sexuality education deserves the same weight as other school courses. Some learners from Nigerian and

South African qualitative studies also recommended that sexuality education should be a standalone subject [38, 68].

Students widely felt that too little time was allocated to sexuality education, often being overshadowed by other subjects or implemented with limited frequency [38, 41, 44, 52, 78, 89, 90], calling for longer and frequent sessions. A mixed-methods study from Ghana and a qualitative study from Indonesia emphasized that the limitedly available number of lessons may restrict the depth of content, leading to superficial coverage of key topics and leaving students feeling that they have not learned enough [78, 96]. In contrast, having a dedicated on-site educator who engages with students regularly, reportedly created opportunities for deeper discussions, follow-ups, and trust-building [51]. There is also concern that sexuality education is not taken seriously in schools due to the lack of formal assessments [37], with some South African and Zambian AYP even advocating for its inclusion in final exams [63, 70]. Overall, research on AYP's delivery preferences remains limited.

Preferences on delivery approaches varied- with 44% of Lebanese adolescents (11–16 years) surveyed, some Sierra Leonan students (10–14 years) and most Tanzanian (12–14 years) and Gambian learners interviewed (15–19 years) favouring mixed-gender discussions for inclusivity [31, 49, 93, 99], while learners from China (from grade 8 and 9, presumably 13–15 years) preferred single-gender sessions for comfort [83] and a multi-country study involving primary and secondary school students from Sub-Saharan Africa showing mixed results [41]. The latter study found that in rural schools in Zambia, girls preferred sex-segregated classes, whereas in peri-urban and urban schools, girls and boys were comfortable to be taught together. That these preferences across and within studies differed underlines students' comfort being conducive to their learning as well as the importance of tailoring delivery to context.

AYP's perspectives on educators' age, gender, expertise, attitudes and skills

The review shows that the role of the educator has a strong effect on AYP's satisfaction with sexuality education delivery, with varying findings regarding educators' age, gender, professional background, and lived experiences. Younger educators tend to be seen as relatable, fostering trust and engagement [51, 90, 94], whereas older educators were valued for experience [70]. Gender dynamics also play a role, with students often favouring same-sex educators, particularly for sensitive topics [49, 66, 75, 91] and in rural areas, as a study from Iran suggests [91]. A study from South Africa emphasized "cross-gender relatability", challenging this widespread preference for same-sex teachers by showing that – when implemented with care—students can also connect with educators of a different gender [37].

Some studies highlighted the empowering effect that sexuality education teachers' supportive attitudes can have on AYP [37, 54, 69, 70, 90]. A qualitative study from Madagascar illustrated that relatable, inclusive, and caring educators who communicate sensitive sexuality education topics in a direct and engaging manner fostered stronger student connections and created a more effective learning environment [69]. In South Africa, positive relationships with Life Orientation educators were reportedly built on trust, confidentiality, consistency between values and behaviour, and the use of supportive, non-punitive discipline strategies that encouraged open discussions on sexuality education [37]. Expertise, approachability, and inclusivity were also highlighted as positive educator traits in another South African and a Myanmar study [47, 75].

Several studies highlight AYP's appreciation for diverse perspectives, including guest speakers and individuals who share personal stories, as these approaches made lessons more engaging and relevant [37, 38, 51]. Students from Ghana, Myanmar, South Africa, Tanzania and Uganda expressed a preference for educators with expertise in SRH, such as healthcare professionals, over schoolteachers, citing their specialized knowledge and approachability [51, 56, 57, 59, 63, 75], particularly in contexts where teachers are perceived as making them feel uncomfortable or to be judgmental, as documented in some South African schools [47]. Many students interviewed in another South African study, however, ultimately preferred Life Orientation educators over civil society organisation facilitators due to their teaching experience and ability to maintain order in the classroom [51]. This shows that students value thematic expertise as well as effective teaching and classroom management skills in educators.

Several studies highlight that educators were perceived as judgmental [38, 39, 42, 52, 55], contributing to unsafe or uncomfortable learning environments. Many participants reasoned that teachers'religious and cultural beliefs [38, 41, 44, 55, 78, 87], discomfort [31, 35, 41, 54, 55, 57, 68, 78, 84] and lack of knowledge [52, 80] influenced their teaching. Students who expressed lack of trust in their educators often cited moralising attitudes [38, 42, 47, 52] - particularly towards girls [39, 66, 87], non-normative sexualities [47], and students returning after pregnancy [47]. Adolescent voices from a qualitative study from Brazil further highlighted that some teachers reproduced racial biases within the classroom, reinforcing inequities and influencing their perceptions of self-worth and appearance [87].

Language style and educators' communication skills affect student receptiveness to sexuality education. In

Nigeria and South Africa, students found formal, outdated, or overly direct terminology uncomfortable, limiting engagement [54, 68]. In Botswana, vernacular use was sometimes perceived as inappropriate [41], while in the Dominican Republic, students valued clear, respectful, and example-based delivery [97]. Learners with disabilities interviewed from Botswana, Eswatini, Ghana, Malawi, Uganda and Zambia overall expressed appreciation for their schools for providing specialized teachers who could communicate with students with different disabilities and enable them to learn about sexuality education concepts, but that they often lacked key communication skills, such as sign language and braille, creating barriers for students with disabilities [41].

Challenges to safe, healthy and inclusive learning environments for sexuality education

AYP believed that some educators failed to create safe, inclusive learning spaces due to insufficient training [42, 55, 63, 68, 89, 97] and highlighted perceived power imbalances and teachers enacting harsh authority or favouritism [46, 69, 72]. Feeling unsafe in the classroom, in return, can affect learners' willingness to ask questions and participate [39, 54]. Peer pressure and teasing can create discomfort [39, 46, 49, 55, 56, 66]. These factors contribute to many AYP reportedly feeling shy and embarrassed [39, 46, 55, 57, 59, 66, 89] during sexuality education. One study furthermore highlighted disruptive behaviour, particularly by boys, such as laughter and side conversations, hindering engagement [41].

Gender-biased classroom dynamics limit opportunities for equal learning and discussion. Female participants in qualitative studies from Ethiopia, Iran and South Africa expressed fear of being labeled negatively if they participated openly [39, 46, 66]. Girls living in Iranian villages experienced greater fear of being labeled than urban girls, highlighting geographical and cultural differences in how stigma affects engagement with sexuality education [91]. Finding relatively low satisfaction rates overall, only a survey with Chinese adolescents suggests that girls (56.62%) felt safer and more comfortable for puberty discussions at school, compared to boys (42.9%) [85]. Some studies also touched upon confidentiality concerns and a risk for distress during sexuality education classes, particularly for survivors of sexual violence [55] and those navigating LGBTIQ + identities [47].

Learners recommended that educators should receive training and support that enables them to teach sexuality education confidently and with an open mind [52, 63, 68, 80]. Other suggestions to promote safer learning environments included smaller discussion groups [95] as well as to increasing trust-based relationships between students and educators [31, 52].

Moving beyond lectures: AYP call for adequate, interactive and inclusive sexuality education methods and materials

AYP from a variety of LMICs overwhelmingly critiqued traditional, lecture-based sexuality education methods as passive, adult-centric, and disengaging [59, 68, 72, 80, 87, 89, 95] and that educators often failed to use practical teaching strategies [55, 63, 80, 85, 95]. Conversely, students expressed preferences for interactive, student-centered approaches [35, 38, 41, 70, 83, 89]. Accounts on positive learning experiences from Zambia suggest the effectiveness of methods such as group discussions and role-playing [70], which encourage active participation and reflection. The use of videos and films depicting real-life scenarios seems particularly valued [55, 63, 70, 80], as they not only capture learners' interest but also foster emotional engagement with sensitive topics. A mixed-methods study from Asia–Pacific concluded that AYP respondents who reported receiving sexuality education through participatory methods appeared to be "more satisfied" with the sexuality education they had received than those who did not [74]. Similarly, female and male participants in a Madagascan study highlighted that the programme's learner-centred, participatory approaches diminished their shyness and gradually built their self-confidence [69]. However, particularly in unsafe learning environments, shy and introverted participants might struggle to engage with such approaches, preferring teaching methods that feel less exposing [55, 95]. Peer education [91] and digital learning platforms [37, 83] have also been suggested as useful tools to complement classroom instruction, possibly offering accessible and youth-friendly alternatives to traditional learning.

While few studies include direct recommendations from AYP in this regard, it seems that AYP advocate for a sexuality education pedagogy that effectively addresses topics in an engaging and inclusive manner [35] and reflective of their lived realities with practical demonstrations [55, 80].

AYP's perspectives on the wider school environment, school leadership and parental involvement

A persistent challenge that extends beyond sexuality education delivery is the availability and quality of teaching materials in schools in LMICs. Students from African, Asian and Latin American countries reported a lack of textbooks and educational materials [31, 41, 49, 52, 57, 61, 68, 80, 84, 89]. Only a mixed-methods study from China reported on widespread availability of learning materials, with over 90% of students stating to have access to some sexuality education materials, including textbooks, flyers, handouts, and videos [85]. Inadequate or outdated curricula can further limit the comprehensiveness of sexuality education [31, 38, 80, 84], particularly regarding LGBTIQ + topics, sex and pleasure, HIV

positive learners and gender diversity [35, 80]. For students with disabilities, the absence of adapted teaching tools, such as sign language guides and braille materials, further exacerbates exclusion [35, 41].

Safety and discrimination concerns go beyond the sexuality education classroom and need to be addressed at school-level. A study from South Africa stressed that schools reinforce cis- and heteronormativity through disciplinary violence and social policing, marginalizing LGBTIQ + youth and silencing allies who challenge exclusion [47]. A study focusing on gender dimensions of sexuality education in Ethiopia also highlighted that implementation failed to address critical school environment concerns, leaving girls feeling unsupported and vulnerable to harassment and exclusion [39]. Experiences of racial discrimination at school, from either classmates or teachers, in Brazil reveal the burden of structural inequalities reproduced at school affecting Black adolescents' education, particularly girls' [87]. Also the reported disconnect between schools' overall curriculum and the lived experiences of marginalized students (in the case of South Africa, for instance, the so-called "day girls" coming from working-class backgrounds and from black townships), underscores the need for schools to better support learners' diverse socio-economic, cultural, and sexual health challenges in order to provide effective sexuality education [32].

AYP from several studies stressed that their parents are an important source of sexuality education [42, 53, 70]. Conflicting messages between home and school can create uncertainty, as parents may promote narratives that clash with sexuality education curricula [30, 37, 61], more evident in rural communities than urban settings in a South African study [63]. A study from China highlights the varying extent to which AYP discuss school-based sexuality education with their parents, with girls (86.84%) engaging substantially more in these conversations compared to boys (46.1%) [85]. Students from Lebanon who discussed reproductive health topics with their parents, and learners from Myanmar who had a parent with a positive behavioural intention for CSE, were more likely to support in-class sexuality education [75, 93]. In a study from Nigeria, parent/guardian support to access SRH services at health facilities was significantly higher among the intervention group (79.9%) compared to the non-intervention group (69.7%) with $p = 0.009$, which authors attributed to sensitization activities with parents in addition to the school-based interventions with AYP [48]. This shows that actively involving parents in school-based sexuality education can be a means to enhance AYP's support for sexuality education as well as their SRH outcomes and parent–child communication.

Socio-cultural and religious norms shape AYP's engagement with sexuality education

Socio-cultural norms may not only affect educators' and schools' approaches to sexuality education but also shape how AYP themselves engage with it. Many AYP internalize these norms, with girls questioning their own sexual agency and impeding their participation in class, while boys more openly discuss sexuality at school [36, 39, 78]. Self-reported cultural resistance toward sexuality education among AYP varied. While only 3.9% of (n = 827) respondents in a Ugandan study worried that adolescent SRH education could breach cultural norms [57], 22% of [100] Tanzanian learners interviewed acknowledged that culture plays a significant role in shaping behaviours and attitudes toward family life education [61]. Some Bangladeshi AYP interviewed expressed that schools should not provide sex education at all, adhering to the culturally perceived as dominant discourses of sex as natural, private and taboo [73]. There is limited research on how religious differences could further influence attitudes toward sensitive topics, with only one quantitative study from Tanzania reporting on disaggregation of AYP's views on sexuality education components [50].

Discussion

This scoping review aimed to map the existing literature on AYP's perspectives on sexuality education in LMICs. It identified an overall scarcity of information in English language from Latin America and the Caribbean, Middle East and Northern Africa as well as Eastern Europe and Central Asia. Little focus is given to the perspectives of adolescents aged 10 to 12, a common limitation across the literature on education for health and well-being [101] despite this group being a key priority in global research agendas. For instance, a research prioritisation exercise from the UN's Special Programme in Human Reproduction (HRP) based at the World Health Organization (WHO identified the question"How can implementation of comprehensive sexuality education be strengthened among young adolescents?"among the top ten research needs, underlining the importance of more evidence in this area [102]. There is limited research in rural study settings as well as insufficient data disaggregation by AYP's social identity markers. Key data gaps include AYP's perspectives on the age- and context-appropriateness of content, delivery formats, and the integration of gender-sensitive, inclusive, and rights-based approaches, highlighting the need for future studies to pay particular attention to exploring how these elements can be better tailored to AYP's needs in LMICs. Future research would benefit from more mixed-methods and participatory designs, which can combine the depth of qualitative inquiry with the ability to identify and disaggregate patterns across diverse adolescent and

youth groups. We also identified a lack of intervention or process evaluation studies capturing adolescents' and young people's perspectives before, during, and after participation in school-based sexuality education programmes. Most studies were cross-sectional capturing single time-point reflections, often on ongoing, curriculum-based provision. Future research could address this through longitudinal or process-oriented designs, where feasible, to explore how programme exposure shapes learners' experiences and preferences over time.

The heterogeneity of contexts, curricula and research methodologies of the reviewed studies makes it difficult to draw overall conclusions or offer a meaningful comparative analysis across countries or participant characteristics. Yet, some commonalities cut across settings and studies. Critically, findings highlight a strong need for, and widespread support of, sexuality education among AYP, but gaps in content and delivery must be addressed to ensure it meets their expectations, prevents disengagement and provides a safe, comfortable, and empowering learning experience.

While school-based sexuality education reportedly tends to focus on cognitive learning about human biology and developmental aspects, abstinence and negative implications of sexuality, AYP have clearly expressed that they expect such education to meet *all* their needs - social, emotional, cognitive and physical [103] - and cover a comprehensive breadth of topics. In particular, they emphasize the importance of including affective and social-relational dimensions, such as communication, consent, and navigating relationships, as well as skills-based learning that supports their everyday lived experiences. These insights from AYP first-hand accounts align with broader evidence on the effectiveness of sexuality education, which highlights similar gaps. A review of available systematic reviews [104] underscored persistent limitations in evaluations capturing the effectiveness of sexuality education programmes on outcome areas related to critical thinking and decision-making skills as well as understanding of cultural aspects and human-rights frameworks related to sexuality. As a result, existing evaluations often fail to capture AYP's capabilities to express their feelings, articulate their needs, and develop their own gender and sexual identities. Long-term outcomes - such as AYP's experience of sexuality as pleasurable and the promotion of a more tolerant, respectful social climate toward diverse sexualities, lifestyles, attitudes, and values - remain underexplored [104].

AYP from many LMICs voiced that sexuality education failed to challenge heteronormative and patriarchal gender norms, and in fact, the delivery more often reproduced them. Moralist teachings disproportionately burden girls with sexual responsibility, expecting them to maintain moral boundaries while boys are afforded greater freedom to explore their sexuality. These patterns highlight a critical gap, especially considering that sexuality education programmes that address gender or power have been found to be five times more likely to be effective in reducing STIs and unintended pregnancies than those that did not [105]. AYP identifying with a minority group highlighted in this review - such as those with diverse sexual orientations, gender identities, disabilities, racial minorities, living with HIV, from lower socio-economic status or adolescent mothers - felt that sexuality education was not inclusive or responsive to their lived realities. Although AYP may interpret inclusivity in different ways, findings consistently indicate that existing curricula often neglect the specific needs and experiences of AYP who do not conform to dominant norms. While this exclusion is partly shaped by restrictive social, legal, and political environments - limiting, for example, teachers'ability to speak about LGBTIQ + rights - it also reflects deeper systemic issues rooted in the political economy of international development and education programming. Notably, few studies applied an intersectional lens [106] to AYP's perspectives, often treating marginalized identities in isolation rather than examining how overlapping social identity markers interact to shape their experiences and needs in relation to sexuality education.

Findings related to experiences and preferences concerning delivery were inconclusive, as fewer studies discussed these and findings varied among settings. One common thread identified was that AYP generally preferred participatory methods to learn about sexuality, which might allow for more personalized and adaptive learning; and promotes critical thinking [107]. This has important implications for policymakers, curriculum developers and educators. In many LMICs, participatory approaches face challenges such as large or mixed-age class sizes, limited teacher capacity, and a lack of emphasis on participatory methods in pre-service training [108]. Combined with this review's findings on AYP's calls for education to better reflect their lived realities, these considerations underscore the need for context-specific, participatory pedagogies that align with LMIC contexts. Preferences for mixed-gender versus single-gender instruction differed across studies, with some learners valuing inclusivity and open discussion, while others, particularly in rural and more conservative settings, preferred gender-segregated sessions for comfort and privacy. While the findings indicate that AYP value the early introduction of sexuality education, gaps in age-appropriate content may lead to delivery that feels uncomfortable or irrelevant for learners.

The review stresses that educators are essential in fostering safe learning environments for sexuality education. Many AYP favoured health professionals and external

educators for their expertise and neutrality, while others preferred schoolteachers for their continuity, trust, and teaching skills. This highlights AYP's preference for knowledgeable, approachable, and respectful educators who facilitate open, stigma-free discussions. That AYP's perspectives on pedagogical methods differ more strongly could be explained by the variety of settings included in the review, as well as the potential influence of culture on human behaviour and thus preferences around teaching methods and interactions between learners and educators [109].

Knowing and learning about sexuality is central to human development and addressing social inequalities and goes beyond preventing adverse health and social outcomes [110, 111]. In reality, however, implementation is hindered by strained school systems and contexts of violence, including gender-based violence [12] and compounded by socio-cultural norms, politics and the broader dynamics of international development that shape sexuality education [112, 113]. Sexuality education requires supportive education systems, including enabling policies, safe and inclusive learning environments, human resource development, and engagement with community structures and parents [114, 115].

Youth-participatory approaches create space for the development of democratic governance structures [116–118], can enhance youth empowerment, civic engagement, and organizations' capacity to institutionalize meaningful involvement as well as youth-sensitive SRH interventions [98]. While limited evidence is available on the effects of youth-participatory research on sexuality education or SRHR specifically, there are indications that it not only empowers youth researchers themselves [119], but also that it contributes to enhanced research quality [119–121]. In light of this, it is concerning that only seven out of 66 studies reviewed explicitly acknowledged employing a youth-participatory research design and nine mentioned applying youth-friendly creative methods. Future research should prioritize the meaningful and engaging involvement of AYP in studies about their lives, ensuring that their perspectives - particularly those from diverse backgrounds - are adequately represented and integrated into the evidence base.

Moreover, debates on the effectiveness of sexuality education often prioritize predefined behavioural and health outcomes, while process evaluations and studies on the acceptability of sexuality education are largely lacking from scientific literature [104]. Rethinking effectiveness through AYP's needs and satisfaction levels could offer a more responsive and meaningful framework for assessing sexuality education's impact.

Lastly, several limitations of this review should be acknowledged. Restricting our search to English-language sources has likely led to the underrepresentation of certain regions and may reflect analytical frameworks and discourses shaped by English-language academic traditions, potentially differing from insights found in literature published in other languages. For future systematic reviews, we recommend incorporating literature in multiple languages as well as to consider a broader scope beyond school-based programmes, acknowledging their potential for more effective and inclusive curricula outside the classroom [122]. This scoping review included studies with variations in methodological rigor, sample sizes and reporting transparency, which may affect the validity of findings. In a few cases, the implementing organisations were also involved in the research, which may have introduced potential bias.

Conclusions

Understanding AYP's perspectives is essential for developing relevant, effective and culturally sensitive sexuality education programmes that can support them in their journey to adulthood. The scoping review presented in this article centralised, for the first time, first-hand AYP accounts on their needs, experiences and preferences related to school-based sexuality education, while also pointing to the remaining knowledge gaps when capturing views of AYP in LMICs.

This scoping review showed that AYP from LMICs concur with adolescent and youth perspectives from previous studies that largely focused on high-income context in viewing sexuality education as often inadequate, overly biological, heteronormative, and lacking inclusivity [19, 21, 22, 100]. This study also reinforces existing findings that AYP advocate for comprehensive, sex-positive sexuality education and prefer trained, nonjudgmental professionals over regular teachers due to discomfort and perceived bias. It extends the discussion by offering a more nuanced analysis of how access, sociocultural norms, and school infrastructure influence the availability and perceived quality of sexuality education in LMICs. Additionally, this study explicitly maps the intersections between sexuality education and broader social inequalities, including gender, sexual orientation, socio-economic status, disability, and HIV-related stigma.

Without more rigorous research into the diverse needs, experiences, and preferences of AYP across different countries, age groups, genders, and intersecting social identities, there is a risk of amplifying only the voices of dominant youth groups. Targeted and inclusive research efforts and greater data disaggregation are essential to ensure that sexuality education reflects the realities of AYP in all their diversity.

Abbreviations

AYP	Adolescents and Young People
LMICs	Low- and Middle-Income Countries

LGBTIQ +	Lesbian, Gay, Bisexual, Transgender, Intersex, Queer/Questioning, and other diverse identities
CSE	Comprehensive Sexuality Education
SRH(R)	Sexual and Reproductive Health (and Rights)
EUP	Early and Unintended Pregnancy
STIs	Sexually Transmitted Infections
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
NGOs	Non-Governmental Organizations
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
ITGSE	International Technical Guidance on Sexuality Education

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12978-025-02124-9.

Supplementary Material 1

Acknowledgements
We would like to thank Janneke Staaks, librarian at the University of Amsterdam, for her support with the literature search and screening.

Authors' contributions
HK, MLM, MK, KC, LW and HB participated in the conceptualisation of the scoping review. HK, MK and MLM led the development of the study protocol. HK led the literature search, screening and data extraction and MK and MLM participated in data extraction and discussions on key findings. HK led the data analysis, interpretation and writing of the manuscript. All authors contributed and reviewed the draft of the manuscript and have agreed to the final text.

Funding
Time for HK, MLM, and MK was partially supported by a UNESCO-commissioned study. KC and LW's contributions were covered within their employment with UNESCO, with financial support from Norway. The contents of this manuscript are the sole responsibility of KIT Institute and UNESCO, and can in no way be taken to reflect the views of the Government of Norway.

Data availability
No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate
Ethics approval was not required for this project because the scoping review examined and summarized publicly available data.

Consent for publication
N/A.

Competing interests
The authors declare no competing interests.

Author details
[1]KIT Institute, Amsterdam, the Netherlands
[2]Research Institute of Child Development and Education, University of Amsterdam, Amsterdam, the Netherlands
[3]Department of Clinical Sciences, Liverpool School of Tropical Medicine, Amsterdam, UK
[4]Malawi-Liverpool Wellcome Research Programme, Blantyre, Malawi
[5]Section of Health and Education, UNESCO, Paris, France

Received: 23 May 2025 / Accepted: 8 August 2025
Published online: 21 October 2025

References

1. Patton G, Azzopardi P, Kaoma N, Sabet F, Sawyer S. Adolescent health. In: Detels R, editor. Oxford Textbook of Global Public Health. 7th ed. Oxford Academic; 2021. p. 1–7. Available from: https://academic.oup.com/book/36249/chapter/316177727. [cited 2025 Feb 23].
2. Sundler AJ, Bergnehr D, Haffejee S, Iqbal H, Orellana MF, Vergara Del Solar A, et al. Adolescents' and young people's experiences of social relationships and health concerns during COVID-19. Int J Qual Stud Health Well-being. 2023;18(1):2251236. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC10464546/
3. Keyes KM, Platt JM. Annual Research Review: Sex, gender, and internalizing conditions among adolescents in the 21st century - trends, causes, consequences. J Child Psychol Psychiatry. 2024;65(4):384–407. Available from: https://pubmed.ncbi.nlm.nih.gov/37458091/. [cited 2025 Feb 23].
4. UNESCO. The journey towards comprehensive sexuality education: Global status report. UNESCO; 2021. Available from: https://unesdoc.unesco.org/ark:/48223/pf0000379607. [cited 2023 Nov 20].
5. UNESCO. International technical guidance on sexuality education: an evidence-informed approach. UNESCO; 2018.
6. Miedema E, Le Mat MLJ, Hague F. But is it Comprehensive? Unpacking the 'comprehensive' in comprehensive sexuality education. Health Educ J. 2020;79(7):747–62.
7. Federal Centre for Health Education (BZgA), UNFPA, WHO. Comprehensive sexuality education - Factsheet series. Cologne; 2020. Available from: [https://eeca.unfpa.org/sites/default/files/pub-pdf/unfpa_turkey_factsheet_all_-_who_web_r4.pdf]. Accessed [5 Sept 2025].
8. UNESCO. Review of the Evidence on Sexuality Education. Report to inform the update of the UNESCO International Technical Guidance on Sexuality Education; prepared by Paul Montgomery and Wendy Knerr, University of Oxford Centre for Evidence-Based Intervention. UNESCO:Paris; 2016. Available from https://unesdoc.unesco.org/ark:/48223/pf0000264649] [Accessed 2025 Sep 5].
9. UNESCO. Facing the facts: the case for comprehensive sexuality education. Global Education Monitoring Report Policy Paper 39. Paris; 2019. Available from https://unesdoc.unesco.org/ark:/48223/pf0000368231. [Accessed 2025 Sep 5].
10. Niland R, Flinn C, Nearchou F. Assessing the role of school-based sex education in sexual health behaviours: a systematic review. Cogent Psychol. 2024;11(1): 2309752. https://doi.org/10.1080/23311908.2024.2309752.
11. Sell K, Oliver K, Meiksin R. Comprehensive sex education addressing gender and power: a systematic review to investigate implementation and mechanisms of impact. Sex Res Soc Policy. 2023;20(1):58–74. https://doi.org/10.1007/s13178-021-00674-8.
12. Chavula MP, Zulu JM, Hurtig AK. Factors influencing the integration of comprehensive sexuality education into educational systems in low- and middle-income countries: a systematic review. Reprod Health. 2022;19(1):1–25. Available from: https://doi.org/10.1186/s12978-022-01504-9. [cited 2025 Feb 16].
13. Barriuso-Ortega S, Fernández-Hawrylak M, Heras-Sevilla D. Sex education in adolescence: a systematic review of programmes and meta-analysis. Child Youth Serv Rev. 2024;166:107926.
14. Torres-Cortés B, Leiva L, Canenguez K, Olhaberry M, Méndez E. Shared components of worldwide successful sexuality education interventions for adolescents: a systematic review of randomized trials. Int J Environ Res Public Health. 2023. https://doi.org/10.3390/ijerph20054170.
15. UNESCO, UNAIDS, UNFPA, UNICEF, UN WOMEN, WHO. International technical guidance on sexuality education: an evidence-informed approach. UNESCO: Paris; 2018. Available from https://unesdoc.unesco.org/ark:/48223/pf0000260770. [Accessed 2025 Sep 5].
16. UNESCO. Safe, seen and included. Inclusion and diversity within sexuality education. Briefing note. Paris; 2023. Available from https://unesdoc.unesco.org/ark:/48223/pf0000385417. [Accessed 2025 Sep 5].
17. UNESCO. Positive learning. How the education sector can meet the needs of learners living with HIV. Paris; 2021. Available from https://unesdoc.unesco.org/ark:/48223/pf0000380025. [Accessed 2025 Sep 5].
18. Michielsen K. Barriers to CSE for children and young people with disabilities and how to overcome them. Eur J Public Health. 2021. https://doi.org/10.1093/eurpub/ckab164.373.
19. Pound P, Langford R, Campbell R. What do young people think about their school-based sex and relationship education? A qualitative synthesis of young people's views and experiences. BMJ Open. 2016;6(9):e011329.

Available from: https://bmjopen.bmj.com/content/6/9/e011329. [cited 2025 Feb 16].
20. Diaz CT. Researching youth voices on Comprehensive Sexuality Education: A literature review of qualitative studies. Encyclopaideia. 2024;28(70):19–33. Available from: https://encp.unibo.it/article/view/18974/19134. [cited 2025 Feb 16].
21. JL Corcoran SL Davies CC Knight RG Lanzi P Li SL Ladores 2019 Adolescents ' perceptions of sexual health education programs : An integrative review. 2020;84:96–112. https://doi.org/10.1016/j.adolescence.2020.07.014.
22. O'Farrell M, Corcoran P, Davoren M. Examining LGBTI+ inclusive sexual health education from the perspective of both youth and facilitators: a systematic review. BMJ Open. 2021;11:47856. Available from: https://doi.org/10.1136/bmjopen-2020-047856. [cited 2025 Feb 16].
23. Trask B. Adolescents, Families, and Globalization in the Twenty-First Century. In: Global Perspectives on Adolescents and Their Families. Springer Nature Link; 2024;3–20. Available from: https://doi.org/10.1007/978-3-031-49230-3_1. [cited 2025 Feb 23].
24. Kok M, Kabelka H, Kakal T, Zulu JM, Moukam L, Machawira P, et al. 'Our rights, Our lives, Our future': evaluation of a 5-year multi-country programme to enhance sexuality education in Sub-Saharan Africa. BMC Reproductive Health. Accepted for publication 2025.
25. Marah TS, Pradhan HD, Shuhood FA. Youth participation in global governance: Opportunities and challenges. Journal of Governance and Public Administration. 2024;2(1). Available from: https://journal.ppmi.web.id/index.php/jogapa/article/view/1718/1200. [cited 2025 Mar 29].
26. Pollock D, Evans C, Menghao Jia R, Alexander L, Pieper D, Brandão de Moraes É, et al. Key Concepts in Clinical Epidemiology "How-to": scoping review? J Clin Epidemiol. 2024;176. https://doi.org/10.1016/j.jclinepi.2024.111572.
27. Peters MDJ, Marnie C, Colquhoun H, Garritty CM, Hempel S, Horsley T, et al. Scoping reviews: reinforcing and advancing the methodology and application. Syst Rev. 2021. https://doi.org/10.1186/s13643-021-01821-3.
28. Bronfenfrenner U. Developmental research, public policy, and the ecology of childhood. Child Dev. 1974;45(1):1–5.
29. Rutgers. An introduction to the Whole School Approach for sexuality education. A guide on the Whole School Approach for sexuality education. 2016. Available from: https://www.rutgers.international/sites/rutgersorg/files/PDF/WSA_introduction_toolkit_preview.pdf
30. Wood L, Hendricks F. A participatory action research approach to developing youth-friendly strategies for the prevention of teenage pregnancy. Educ Action Res. 2017;25(1):103–18.
31. Nacken A, Rehfuess EA, Paul I, Lupapula A, Pfadenhauer LM. Teachers' competence, school policy and social context—HIV prevention needs of primary schools in Kagera, Tanzania. Health Educ Res. 2018;33(6):505–21.
32. Mthatyana A, Vincent L. Multiple femininities in a "single sex" school: Re-orienting Life Orientation to learner lifeworlds. Perspect Educ. 2015;33(2):49–62.
33. Beyers C. In search of healthy sexuality: the gap between what youth want and what teachers think they need. J Transdiscipl Res S Afr. 2013;9(3):550–60.
34. Adebayo A, Beeman A, Lacorazza A, Ippoliti N. The future of sex ed: a global youth-led approach to reimagining innovations in sex education. Youth Development Labs. 2023. Available from https://static1.squarespace.com/static/5ea7b2cd859d291f18d9dfb9/t/646e17974c833f6b39535732/1684936641276/Future+of+Sex+Ed+Research+Findings+%2B+Design+Principles_YLabs. [Accessed 2025 Sep 5].
35. Singh A, Both R, Philpott A. 'I tell them that sex is sweet at the right time'–A qualitative review of 'pleasure gaps and opportunities' in sexuality education programmes in Ghana and Kenya. Glob Public Health. 2021;16(5):788–800. https://doi.org/10.1080/17441692.2020.1809691.
36. Amo-Adjei J. Local realities or international imposition? Intersecting sexuality education needs of Ghanaian adolescents with international norms. Glob Public Health. 2022;17(6):941–56. https://doi.org/10.1080/17441692.2021.1894588.
37. Tucker LA, George G, Reardon C, Panday S. 'Learning the basics': young people's engagement with sexuality education at secondary schools. Sex Educ. 2015;16(4):337–52.
38. Koch R, Beyers C. Teaching comprehensive sexuality education using a praxis co-created with adolescents. Afr J Prim Health Care Fam Med. 2023;15(1):1–8.
39. Amentie SA, Öhrn E, Fereja T. What sexuality education teaches and what young girls want to learn: voices from an Ethiopian primary school. Ethn Educ. 2022;17(4):389–404. https://doi.org/10.1080/17457823.2022.2095218.
40. Phasha TN, Runo M. Sexuality education in schools for learners with intellectual disabilities in Kenya: empowerment or disempowerment? Sex Disabil. 2017;35(3):353–70.
41. UNESCO. Consolidated Regional Report. Qualitative study on the attitudes, perceptions and experiences of learners and teachers on Comprehensive Sexuality Education (CSE). Harare, Zimbabwe. 2022. Available from: https://anyflip.com/lhnym/oyye/basic/101-150. [Accessed 2025 Sep 5].
42. Aham-Chiabuotu CB, Aja GN. "There Is No Moral They Can Teach Us": Adolescents' Perspectives on School-Based Sexuality Education in a Semiurban, Southwestern District in Nigeria. Am J Sex Educ. 2017;12(3):315–36. https://doi.org/10.1080/15546128.2017.1280442.
43. Inyang MP, Inyang OP. Nigerian secondary school adolescents' perspective on abstinence-only sexual education as an effective tool for promotion of sexual health. F1000Res. 2013. https://doi.org/10.12688/f1000research.2-86.v2.
44. Keogh SC, Leong E, Motta A, Sidze E, Monzón AS, Amo-Adjei J. Classroom implementation of national sexuality education curricula in four low- and middle-income countries. Sex Educ. 2021;21(4):432–49. https://doi.org/10.1080/14681811.2020.1821180.
45. Francis DA. 'I haven't gotten my head around that'.: cisheterosexual school-attending youths' accounts of how cisheteronormativity features in their sexuality education curriculum. Int Stud Sociol Educ. 2024;00(00):1–20. https://doi.org/10.1080/09620214.2024.2364056.
46. Mayeza E, Vincent L. Learners' perspectives on life orientation sexuality education in South Africa. Sex Educ. 2019;19(4):472–85. https://doi.org/10.1080/14681811.2018.1560253.
47. Francis D. 'Keeping it straight' what do South African queer youth say they need from sexuality education? J Youth Stud. 2019;22(6):772–90.
48. Eze II, Mbachu CO, Agu IC, Akamike IC, Eigbiremolen G, Onwujekwe O. Determinants of awareness, value perception, and societal support for sexual and reproductive health services among in-school adolescents in South-eastern Nigeria. BMC Health Serv Res. 2023;23(1):1–10.
49. Martinez S, Marfo SO, Ibrahim AF, Carney A, Vavrus F, Kabba M, et al. Piloting puberty content books and a teacher training guide in Sierra Leone: a qualitative assessment. Front Educ (Lausanne). 2024;9(September):1–10.
50. Mkumbo KAK. Students' attitudes towards school-based sex and relationships education in Tanzania. Health Educ J. 2014;73(6):642–56.
51. Tucker LA, George G, Reardon C, Panday S. Sexuality education in South African schools: the challenge for civil society organisations. Health Educ J. 2017;76(1):77–88.
52. Sagnia PlG, Jeng M. In-school adolescents' perception of sexuality education in region 1 of the Gambia. Afr J Reprod Health. 2023;27(2):49–56. Available from: https://pubmed.ncbi.nlm.nih.gov/37584939/. [cited 2025 Feb 16].
53. Browes NC. Comprehensive sexuality education, culture and gender: the effect of the cultural setting on a sexuality education programme in Ethiopia. Sex Educ. 2015;15(6):655–70.
54. Bergam S, Kuo C, Atujuna M, Pellowski JA, Mtukushe B, Ndevu-Qwabe N, et al. "We Should Be Taught Self-Respect, Self-Confidence and Self-Love": Youth Perspectives of Adult Influences on Their Sexuality and Relationships Among South African Adolescents Living With HIV. Frontiers in Reproductive Health. 2022;4(July):1–9.
55. Adekola AP. X-raying educator-related factors hindering sexuality education implementation in rural South African schools: learners' perspectives. Front Educ (Lausanne). 2024;9(July):1–7.
56. Adekola AP, Mavhandu-Mudzusi AH. Addressing learner-centred barriers to sexuality education in rural areas of South Africa: learners' perspectives on promoting sexual health outcomes. Sex Res Soc Policy. 2023;20(1):1–17. https://doi.org/10.1007/s13178-021-00651-1.
57. Herman L, Ovuga E, Mshilla M, Ojara S, Kimbugwe G, Adrawa AP, et al. Knowledge, Perceptions and Acceptability to Strengthening Adolescents' Sexual and Reproductive Health Education amongst Secondary Schools in Gulu District. World Acad Sci Eng Technol. 2013;7(7):1787–802. Available from: http://www.ncbi.nlm.nih.gov/pubmed/24748950%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgiartid=PMC3991165
58. Obare F, Birungi H. Policy scripts and students' realities regarding sexuality education in secondary schools in Kenya. Sex Educ. 2013;13(6):615–29.
59. Ocran B, Talboys S, Shoaf K. Conflicting HIV/AIDS sex education policies and mixed messaging among educators and students in the Lower Manya Krobo Municipality, Ghana. Int J Environ Res Public Health. 2022. https://doi.org/10.3390/ijerph192315487.
60. Achora S, Thupayagale-Tshweneagae G, Akpor OA, Mashalla YJS. Perceptions of adolescents and teachers on school-based sexuality education in rural primary schools in Uganda. Sexual and Reproductive Healthcare. 2018;17(April 2017):12–8. Available from: https://doi.org/10.1016/j.srhc.2018.05.002

61. Kapinga OS, Hyera DF. Pupils' Perceptions of Sex and Reproductive Health Education in Primary Schools in Tanzania: A Phenomenological Study. Journal of Education and Practice. 2015;6(6):106–13. Available from: www.iiste.org
62. Agu O, Agu IC, Eigbiremolen G, Akamike I, Okeke C, Mbachu C, et al. Sexual and reproductive health information needs; an inquiry from the lens of in-school adolescents in Ebonyi State. Southeast Nigeria BMC Public Health. 2024;24(1):1–9.
63. Mturi AJ, Bechuke AL. Challenges of including sex education in the life orientation programme offered by schools: The case of mahikeng, north West Province. South Africa Afr J Reprod Health. 2019;23(3):134–48.
64. Ngissa NS, Sanga E, Nsanya MK, Kweka B, Malindisa E, Mwaipopo R. Curriculum-based sexual and reproductive health education: revealing its relevance for risky sexual behaviors among secondary school students in Mwanza, Tanzania. Reprod Health. 2024;21(1):1–9. Available from: https://doi.org/10.1186/s12978-024-01798-x
65. Jearey-Graham N, Macleod C. A discourse of disconnect: young people from the Eastern Cape talk about the failure of adult communications to provide habitable sexual subject positions. Perspect Educ. 2015;33(2):11–29.
66. Le Mat MLJ. (s)exclusion in the sexuality education classroom: young people on gender and power relations. Sex Educ. 2017;17(4):413–24. https://doi.org/10.1080/14681811.2017.1301252.
67. Rijsdijk LE, Lie R, Bos AER, Leerlooijer JN, Kok G. Sexual and reproductive health and rights: implications for comprehensive sex education among young people in Uganda. Sex Educ. 2013;13(4):409–22.
68. Nwokocha E, Isiugo-Abanihe I, Omololu F, Isiugo-Abanihe U, Udegbe B. Implementation of family life and HIV/AIDS education in Nigerian schools: a qualitative study on scope, delivery and challenges. Afr J Reprod Health. 2015;19(2):63–78.
69. O'Keefe S, Raonivololona M, Ramarosandratana M, Anjarasoa T, Leeson L. "My life would not be the same": a qualitative, retrospective evaluation of the post-programme outcomes of an in-school comprehensive sexuality education programme in Madagascar. Sex Educ. 2024;00(00):1–14. Available from: https://doi.org/10.1080/14681811.2023.2289423.
70. Chirwa-Kambole E, Svanemyr J, Sandøy I, Hangoma P, Zulu JM. Acceptability of youth clubs focusing on comprehensive sexual and reproductive health education in rural Zambian schools: a case of Central Province. BMC Health Serv Res. 2020;20(1):1–9.
71. Ipas. False Pretenses: The Anti-Comprehensive Sexuality Education Agenda Weaponizing Human Rights. 2023; Available from: www.ipas.org. [cited 2025 Feb 20].
72. Boonmongkon P, Shrestha M, Samoh N, Kanchawee K, Peerawarunun P, Promnart P, et al. Comprehensive sexuality education in Thailand? A nationwide assessment of sexuality education implementation in Thai public secondary schools. Sex Health. 2019;16(3):263–73.
73. Khan TH, Raby R. From missing to misdirected: young men's experiences of sex education in Bangladesh. Sex Educ. 2020;20(6):583–96. https://doi.org/10.1080/14681811.2019.1703177.
74. UNFPA, UNESCO, IPPF. Learn. Protect. Respect. Empower. The status of comprehensive sexuality education in Asia and the Pacific: A summary review 2020. 2020. Available from https://asiapacific.unfpa.org/sites/default/files/pub-pdf/cse_summary_review.pdf. [Accessed 2025 Sep 5].
75. Thin Zaw PP, McNeil E, Oo K, Liabsuetrakul T, Htay TT. Abstinence-only or comprehensive sex education at Myanmar schools: preferences and knowledge among students, teachers, parents and policy makers. Sex Educ. 2020;21(1):75–90. https://doi.org/10.1080/14681811.2020.1749043.
76. Ng HN, Boey KW, Kwan CW, To HKA. Secondary school students' views on sexuality and sexual health education. Int J Sex Health. 2024;36(3):391–405. https://doi.org/10.1080/19317611.2024.2341627.
77. Tripathi N, Sekher TV. Youth in India ready for sex education? Emerging evidence from national surveys. PLoS One. 2013. https://doi.org/10.1371/journal.pone.0071584.
78. Sikoki B, Larastiti C, Suriastini NW, Pujiastuti S. A qualitative study on perceptions of adolescents' sexual and reproductive health education in Yogyakarta, Indonesia. Int J Adolesc Med Health. 2024;36(109):425–32. https://doi.org/10.1515/ijamh-2023-0036.
79. Liu C. Secondary education and class stratification: understanding the hierarchy of sexuality education in a Chinese vocational high school. Children (Basel). 2022. https://doi.org/10.3390/children9101524.
80. Thianthai C. Young people's views of the constraints on sex education in Bangkok, Thailand. Sex Educ. 2019;19(2):180–94. https://doi.org/10.1080/14681811.2018.1526066.
81. Sreekumar S, Ramakrishnan J, Harisankar D, Mannethodi K. Felt needs and expectations of adolescents regarding sexual and reproductive health from schools and health systems: a descriptive study. Indian J Sex Transm Dis AIDS. 2019;40(1):30–4.
82. Song Y. The sexuality education and attitudes of college students in China. Health Educatin. 2015;115(1):93–104.
83. Xue K, Zou S, Zou X, Zheng H, Tang K. Live-streaming comprehensive sexuality education in Western China: an analysis of the views of implementers and junior secondary students. Sex Educ. 2023;25(1):38–53. https://doi.org/10.1080/14681811.2023.2266829.
84. Lafontan SR, Jones F, Lama N. Exploring comprehensive sexuality education experiences and barriers among students, teachers and principals in Nepal: a qualitative study. Reprod Health. 2024;21(1):131. https://doi.org/10.1186/s12978-024-01876-0.
85. UNESCO and UNFPA Offices in China. Implementation of sexuality education in middle schools in China. Beijing, China. 2018. Available from https://china.unfpa.org/sites/default/files/pub-pdf/Implementation%20of%20CSE%20in%20middle%20schools%20report_final_eng.pdf. [Accessed 2025 Sep 5].
86. Ojanen TT, Boonmongkon P, Samakkeekarom R, Samoh N, Cholratana M, Payakkakom A, et al. Investigating online harassment and offline violence among young people in Thailand: methodological approaches, lessons learned. Cult Health Sex. 2014;16(9):1097–112.
87. Magno L, Marinho LFB, Zucchi EM, Amaral AMS, Lobo TCB, Paes HC da S, et al. School-based sexual and reproductive health education for young people from low-income neighbourhoods in Northeastern Brazil: the role of communities, teachers, health providers, religious conservatism, and racial discrimination. Sex Educ. 2023;23(4):409–24. Available from: https://doi.org/10.1080/14681811.2022.2047017.
88. Castillo Nuñez J, Derluyn I, Valcke M. Young people's expressed needs for comprehensive sexuality education in Ecuadorian schools. Sex Educ. 2018;18(1):14–31. https://doi.org/10.1080/14681811.2017.1374941.
89. López-Alvarado S, Castillo-Nuñez J, Cevallos-Neira A, Arpi-Becerra N, Jerves-Hermida E. 'It wasn't because I lacked knowledge… it just happened and that´s that'. Towards an understanding of the experiences of adolescent fathers and mothers in Cuenca (Ecuador) and their implications for sex education. Sex Educ (Abingdon Engl). 2024;24(2):225–37. https://doi.org/10.1080/14681811.2023.2171381.
90. Richards SD, Mendelson E, Flynn G, Messina L, Bushley D, Halpern M, et al. Evaluation of a comprehensive sexuality education program in la Romana, Dominican Republic. Int J Adolesc Med Health. 2019;33(5):1–18.
91. Shahhosseini Z, Hamzehgardeshi Z. Female adolescents' perspective about reproductive health education needs: a mixed methods study with explanatory sequential design. Int J Adolesc Med Health. 2015;27(1):57–63.
92. Sheikhansari N, Abraham C, Denford S, Eftekhar M. A qualitative assessment of the sexual-health education, training and service needs of young adults in Tehran. BMC Public Health. 2021;21(1):1–9.
93. Mouhanna F, DeJong J, Afifi R, Asmar K, Nazha B, Zurayk H. Student support for reproductive health education in middle schools: findings from Lebanon. Sex Educ. 2017;17(2):195–208. https://doi.org/10.1080/14681811.2017.1280011.
94. proMente social research. Youth views on comprehensive sexuality education as a par of formal education. Research on youth knowledge and attitudes on reproductive health. 2017. Sarajevo, Bosnia and Herzegovina. 2017. Available from https://promente.org/index.php/en/news/495-research-report-youth-views-on-comprehensive-sexuality-education-as-a-part-of-formal-education. [Accessed 2025 Sep 5].
95. Ojanen TT, Burford J, Kuttiparambil B, Boonmongkon P, Samoh N, Worat-worawan W, et al. Picturing sexuality education in Thailand: a visual methods approach. Sex Educ. 2024;00(00):1–20. Available from: https://doi.org/10.1080/14681811.2024.2414756
96. van der Geugten J, Dijkstra M, Van Meijel B, Den Uyl MHG, De Vries NK. Sexual and reproductive health education: opinions of students and educators in Bolgatanga municipality, northern Ghana. Sex Education. 2015;15(2):113–28.
97. Ipas and Political Research Associates. From invisible to indispensable. 2023. Available from: https://www.ipas.org/our-work/sexuality-education-that-includes-abortion/from-invisible-to-indispensable/. [cited 2025 Feb 16].
98. Reeuwijk M, Singh A. Meaningful Youth Participation as a way to achieving success. Canadian Journal of Children's Rights / Revue canadienne des droits des enfants. 2018;5(1):200–22. Available from: https://ojs.library.carleton.ca/index.php/cjcr/article/view/1301. [cited 2022 Sep 23].
99. Sagnia PIG, Jeng M. In-school adolescents' perception of sexuality education in region 1 of the Gambia. Afr J Reprod Health. 2023;27(2):49–56.

100. Diaz CT. Researching youth voices on Comprehensive Sexuality Education: A literature review of qualitative studies. Encyclopaideia. 2024 30;28(70):19–33. Available from: https://encp.unibo.it/article/view/18974/19134. [cited 2025 Feb 16].
101. UNESCO. Building strong foundations. What is foundational education for health and well-being?. 2024. Available from: https://www.unesco.org/en/open-access/cc-sa.
102. WHO. Request for concept notes to advance adolescent sexual and reproductive health research. 2025. Available from: https://www.who.int/news-room/articles-detail/request-for-concept-notes-to-advance-adolescent-sexual-and-reproductive-health-research. [cited 2025 Jul 11].
103. UNESCO MGIEP. The Blue Dot. Exploring new ideas for a shared future. Paris; 2019. Available from https://unesdoc.unesco.org/ark:/48223/pf0000231810. [Accessed 2025 Feb 16].
104. Michielsen K, Ivanova O. Comprehensive sexuality education: why is it important? A study commissioned by the European Parliament's Committee on Women's Rights and Gender Equality (FEMM). Brussels; 2022. Available from https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2022)719998. [Accessed 2025 Sep 5].
105. Haberland NA. The case for addressing gender and power in sexuality and HIV education: a comprehensive review of evaluation studies. Int Perspect Sex Reprod Health 2015;41(1):31–42. Available from: https://pubmed.ncbi.nlm.nih.gov/25856235/. [cited 2025 Mar 29].
106. Crenshaw K. Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics. Univ Chic Leg Forum. 1989;1:39–52.
107. Torres-Cortés B, Leiva L, Canenguez K, Olhaberry M, Méndez E. Shared components of worldwide successful sexuality education interventions for adolescents: a systematic review of randomized trials. Int J Environ Res Public Health. 2023. https://doi.org/10.3390/ijerph20054170.
108. Dumbuya E. Enhancing Teacher Preparedness for Inclusive Education in Low-Income Settings. 2024; Available from: https://papers.ssrn.com/abstract=5022225. [cited 2025 Mar 29].
109. Jukes MCH, Sitabkhan Y, Tibenda JJ. Adapting Pedagogy to Cultural Context. RTI Press Publication. 2021; Available from: https://www.rti.org/rti-press-publication/adapting-pedagogy-cultural-context
110. Logie CH. Sexual rights and sexual pleasure: Sustainable Development Goals and the omitted dimensions of the leave no one behind sexual health agenda. Glob Public Health. 2021. https://doi.org/10.1080/17441692.2021.1953559.
111. Starrs A. A lancet commission on sexual and reproductive health and rights: going beyond the sustainable development goals. Lancet. 2015;386(9999):1111–2.
112. Steiner-Khamsi G. Cross-national policy borrowing: understanding reception and translation. Asia Pacific Journal of Education. 2014;34(2):153–67.
113. Roodsaz R. Probing the politics of comprehensive sexuality education: "Universality" versus "Cultural Sensitivity": a Dutch-Bangladeshi collaboration on adolescent sexuality education, Sex Education. 2018;18(1):107–21. Available from: https://www.tandfonline.com/action/journalInformation?journalCode=csed20. [cited 2025 Mar 14].
114. Vanwesenbeeck I. Comprehensive Sexuality Education. Oxford Research Encyclopedia of Global Public Health. 2020;1–26. https://doi.org/10.1093/acrefore/9780190632366.013.205.
115. Chavula MP, Zulu JM, Hurtig AK. Factors influencing the integration of comprehensive sexuality education into educational systems in low- and middle-income countries: a systematic review. Reprod Health. 2022;19(1):1–25.
116. Glass LM, Newig J. Governance for achieving the sustainable development goals: how important are participation, policy coherence, reflexivity, adaptation and democratic institutions? Earth System Governance. 2019;2: 100031.
117. Villa-Torres L, Svanemyr J. Ensuring youth's right to participation and promotion of youth leadership in the development of sexual and reproductive health policies and programs. J Adolesc Health. 2015;56(1):S51-7.
118. Loudon E, Neary J, McAteer B, Higgins K, Chapman C. A causeway to impact: a proposed new integrated framework for intergenerational community-based participatory action research. Child Soc. 2023. https://doi.org/10.1111/chso.12815.
119. Page A, Cense M, Van Reeuwijk M. Working with young peer researchers in sexuality studies: benefits, challenges and lessons learnt Working with young peer researchers in sexuality studies: benefits, challenges and lessons learnt. Reprod Health Matters. 2152;31(1). Available from: https://www.tandfonline.com/action/journalInformation?journalCode=zrhm21. [cited 2025 Feb 20].
120. Lushey CJ, Munro ER. Participatory peer research methodology: an effective method for obtaining young people's perspectives on transitions from care to adulthood? Qual Soc Work. 2015;14(4):522–37.
121. Porter G. Reflections on co-investigation through peer research with young people and older people in sub-Saharan Africa. Qual Res. 2016;16(3):293–304. https://doi.org/10.1177/1468794115619001.
122. Bialystok L. Is "Sex Education" an Intelligible Concept? In: Handbook of Philosophy of Education. Routledge; 2022.

Publisher's Note