Kesmas

Volume 20
Issue 3 *August 2025*

Article 2

8-29-2025

Barriers to Implementing Comprehensive Sexuality Education as a Strategy to Prevent Adolescent Pregnancy in Indramayu District, Indonesia

Een Kurnaesih
Universitas Pembangunan Nasional Veteran Jakarta, Depok, eenkurnaesih@upnvj.ac.id

Chahya Kharin Herbawani
Universitas Pembangunan Nasional Veteran Jakarta, Depok, chahyakharin@upnvj.ac.id

Nelly Febriani
Universitas Pembangunan Nasional Veteran Jakarta, Depok, nellyhassan165@gmail.com

Recommended Citation

Kurnaesih E , Herbawani CK , Febriani N , et al. Barriers to Implementing Comprehensive Sexuality Education as a Strategy to Prevent Adolescent Pregnancy in Indramayu District, Indonesia. *Kesmas*. 2025; 20(3): 185-193
DOI: 10.7454/kesmas.v20i3.2270
Available at: https://scholarhub.ui.ac.id/kesmas/vol20/iss3/2

Kurnaesih *et al. Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)*. 2025; 20 (3): 185-193
DOI: 10.7454/kesmas.v20i3.2270

Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)

Barriers to Implementing Comprehensive Sexuality Education as a Strategy to Prevent Adolescent Pregnancy in Indramayu District, Indonesia

Een Kurnaesih*, Chahya Kharin Herbawani, Nelly Febriani

Faculty of Health Science, Universitas Pembangunan Nasional Veteran Jakarta, Depok, Indonesia

Abstract

The implementation of comprehensive sexuality education (CSE) is not optimal. This qualitative study aimed to identify and contextualize barriers to CSE implementation, specifically in Indramayu District, Indonesia. Conventional content analysis procedures were used. Seven participants, consisting of relevant authorities, were interviewed. A purposive sampling technique was employed to select participants. Data were collected through in-depth, semi-structured interviews. All interviews were recorded and transcribed verbatim. Data were analyzed using conventional qualitative content analysis. The barriers to CSE implementation in Indramayu District were identified across five themes: advocacy, technical considerations, coordination and collaboration, integration with other sexual and reproductive health projects, and access beyond school, highlighting the need for improved coordination, targeted outreach, and curriculum development to address these challenges and enhance program effectiveness.

Keywords: adolescence, barriers, implementation, pregnancy, sexuality education

Introduction

The United Nations Population Fund (UNFPA) and the United Nations International Children's Emergency Fund (UNICEF) define adolescent pregnancy as any legal marriage or union involving minors, whether with an adult or another child.[1] Adolescent pregnancy specifically refers to pregnancies occurring in female adolescents aged 10–19, with the majority being unintended. This can result from sexual relations with boyfriends, husbands, or as a result of rape, among other contributing factors.[2] Adolescent pregnancy is an international dilemma affecting not only the adolescent and her infant but also entire societies, with almost 300 million female adolescents worldwide experiencing 16 million yearly births, accounting for 11% of all global births.[3]

In Southeast Asia, where Cambodia, Indonesia, Lao People's Democratic Republic, the Philippines, Thailand, Timor-Leste, and Vietnam are represented, data show that among women aged 20–24 giving birth before age 18, up to one-third conceived outside of union.[1] In Indonesia, most adolescent pregnancies occur within the context of union (marriage or cohabitation), but about one in four women conceived outside of union, and of these women, 92% were married or in a union by the time they gave birth.[1]

Indonesia's adolescent birth rate of 47 per 1,000 female adolescents in 2018 exceeds the global average of 42 per 1,000, indicating a higher prevalence of adolescent pregnancies in the country.[4] The 2018 Indonesian Basic Health Research data showed that 56.92% of women experienced either pregnancy or had previously been pregnant at the age of 10–19 years in West Java Province.[5] In 2022, 1,200 adolescent pregnancies were recorded, representing 15% of the total pregnancies in Indramayu District. This data indicates an increase compared to previous years, where 950 and 850 cases were reported in 2020 and 2019, respectively.[6] These figures highlight the urgent need for targeted interventions to address adolescent pregnancy, particularly in regions with high rates such as Indramayu District.

***Correspondence**:* *Een Kurnaesih, Faculty of Health Science, Universitas Pembangunan Nasional Veteran Jakarta, Depok, Indonesia. Email: eenkurnaesih@upnvj.ac.id, Phone: +62 812-2198-451*

Received : December 30, 2024
Accepted : July 24, 2025
Published : August 29, 2025

Studies show that Indonesia's sex education focuses primarily on biological aspects while neglecting psychosocial and practical knowledge, leaving adolescents without critical information to prevent unintended pregnancy and sexual violence.[7] Responding to this concern, at the 1994 International Conference on Population and Development in Cairo, Indonesia and 178 other countries pledged to invest in sexual and reproductive health and rights for women and girls,[8] placing comprehensive sexuality education (CSE) at the center of those rights.[9] The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines CSE as a curriculum-based process addressing the cognitive, emotional, physical, and social dimensions of sexuality.[10] The World Health Organization (WHO) recommends the implementation of CSE to provide accurate and age-appropriate information about sexuality and reproductive health to adolescents.

Evidence shows that CSE can delay sexual debut, reduce unprotected intercourse, limit the number of sexual partners, and increase condom use and access to reproductive health services without raising levels of sexual activity, risk-taking, or infection.[11] In Indonesia, Government Regulation Number 61 of 2014 on Reproductive Health mandates adolescent services, including communication, information, and education through comprehensive sexual education, to prevent risky sexual behavior and prepare young people for healthy and responsible reproductive lives.[12] Nevertheless, UNESCO observes that the coverage and details of comprehensive sexuality education within school curricula in Southeast Asia remain uneven, reflecting the taboos that still surround sexual topics in Indonesian society.[10]

Indramayu District is widely recognized for its significant number of cases of child marriage. In 2021, a total of 236 minors were married.[13] This high incidence of child marriages in Indramayu District is further confirmed by a study finding that 54.5% of respondents (48 individuals) experienced early marriage.[14] In 2023, the district reported 5,113 marriages.[15] This figure surpasses that of other districts in West Java Province, such as Ciamis with 3,229 marriages and Kuningan with 2,914 marriages.[15] This makes Indramayu's marriage rate notably high compared to its neighboring districts, reinforcing the need for targeted interventions such as CSE to address the risks associated with early marriages in the region. Indramayu has implemented CSE since 2022 as a key strategy in preventing adolescent pregnancy. The program adopts a comprehensive approach as guided by UNESCO and the Indonesian Ministry of Health, which not only focuses on the biological aspects of reproduction but also covers sexual rights, gender equality, and life skills development.

In Indramayu District, CSE is implemented through various methods to ensure that the target group receives the message. The CSE materials are integrated into lessons, including Natural Sciences or Counseling Guidance in the school environment, with participatory learning methods such as group discussions and simulations. At the community level, the program engages parents and community leaders through workshops and socialization to reduce stigma around sexual education. Creative approaches, such as the use of poster media, digital content, or radio dramas, are also used to reach adolescents in areas where access to information is difficult. Despite careful planning, the CSE in Indramayu District has not been implemented optimally. This study explored the structural, cultural, and operational challenges faced by stakeholders in effectively implementing CSE programs. By exploring the barriers, this study is expected to provide practical recommendations to strengthen the CSE program in Indramayu District.

Method

This study used a qualitative approach with a case study design, conducted in 2024, to explore the barriers to the CSE implementation in the Indramayu District. The study population included key stakeholders involved in the CSE program, including health workers, the adolescent reproductive health sector, and non-governmental organizations (NGOs). Purposive sampling technique was used to select key informants who understood the context of CSE, and snowball sampling was used to identify additional informants based on the initial participant recommendations. The inclusion criteria were established to ensure the relevance of the informants. These included having direct experience in planning and implementing CSE programs, serving in the Indramayu area for at least one year, and being willing to participate through informed consent. Table 1 shows the detailed characteristics of the informants. Each informant was assigned a code (ranging from I-1 to I-7) to ensure confidentiality and anonymity, and their identities were further protected using initials.

Table 1. Characteristics of the Respondents

Code	Informant Description	Position	Age (Years)	Sex
I-1	Mr. WWR	Head of Indramayu District Health Office	56	Male
I-2	Mrs. TING	Health Worker	50	Female
I-3	Mrs. AY	NGO Officer	33	Female
I-4	Mrs. YY	NGO Officer	37	Female
I-5	Mrs. DW	NGO Officer	42	Female
I-6	Miss. AM	NGO Officer	23	Female
I-7	Mrs. SH	NGO Officer	30	Female

The sample size was determined based on the principle of saturation sampling, where the addition of informants ceased once the data began to show repetition and no longer provided new themes. In total, this study involved seven informants, consisting of one health worker, one adolescent reproductive health sector representative, and five NGO representatives, as this sample size was deemed sufficient based on the principle of purposive saturation sampling. To obtain more comprehensive, valid, reliable, and objective data, an in-depth interview study was conducted involving the head of the Indramayu District Health Office as the key informant, a midwife responsible for implementing the reproductive health program in Indramayu District, and a local community figure.

In-depth interviews were conducted individually and privately in alternative settings of the participants' choice. The primary data collection instruments in this study included semi-structured interviews, designed to explore stakeholders' perspectives on the barriers to CSE implementation in Indramayu District. The interview guides were developed based on a review of existing literature and frameworks related to CSE and adolescent reproductive health. This process involved identifying key themes and constructs pertinent to the study objectives. All interviews were conducted in the Indonesian language, then translated into English, audio-recorded with consent, and later transcribed for thematic analysis using NVivo 12 (license: LU001-ED030-25004-90XIL) to ensure systematic coding and interpretation of qualitative data. Thematic analysis was a widely used qualitative analytic method that involved identifying, analyzing, and reporting patterns or themes within data. The process begins with familiarization with the data, followed by generating initial codes that capture the data's key features. These codes were then organized into potential themes, which were refined through constant comparison and validation against the dataset.[16]

Results

Table 2 presents the thematic framework used to explore the barriers in CSE implementation. This framework was structured around several critical areas, including advocacy challenges, technical considerations, coordination among stakeholders, integration with other sexual and reproductive health (SRH) projects, and adolescent access to education.

Table 2. Themes, Subthemes, and Operational Definitions

Theme	Subtheme	Operational Definition
Advocacy	Access to health services	Access to health services refers to the ease with which individuals or communities can obtain the necessary medical care, including the availability of healthcare facilities (clinics, hospitals, and community health centers), the distance and travel time required to reach them, affordability (including free or subsidized services), and the absence of long waiting times.
	Limited information	Limited information describes a situation in which individuals or communities do not have sufficient access to accurate and relevant knowledge on important topics: health, education, or social rights.
Technical Considerations	Modules and curriculum	A module refers to a structured set of learning materials designed to teach specific skills or knowledge, whereas a curriculum is a comprehensive educational plan outlining what students should learn.
	Information providers	Information providers are individuals or organizations disseminating knowledge to the public.
Coordination and Collaboration	Lack of coordination Lack of collaboration	Occurs when different stakeholders (e.g., government agencies, non-governmental organizations, or community groups) fail to work together efficiently, resulting in overlapping programs or gaps in services.
Integration with Other Sexual and Reproductive Health Projects	Lack of socialization	Insufficient efforts to raise public awareness of important issues through campaigns, workshops, or media.
Out of School	Adolescent school dropouts	Those who are not enrolled in formal or non-formal education.

Advocacy

Access to Health Services

The interview results stated that the provision of CSE is a part of health services for people of reproductive age to provide accurate information about sexual and reproductive health, teach life skills, and instill positive values in children and adolescents.

"Comprehensive sexual education is a program that aims to provide accurate and holistic information about sexual and reproductive health to children and adolescents. It covers various aspects, including biology, interpersonal relationships, values, sexual rights, and life skills. CSE programs are usually integrated into the school curriculum with the aim of providing accurate information. CSE provides correct and scientific information on anatomy, puberty, contraception, and sexually transmitted diseases. Students are taught life skills such as effective communication, decision-making, and resisting social pressures associated with sexual activity. CSE also helps students understand the importance of self-esteem, mutual respect, and responsibility in sexual and reproductive relationships." (Head of Indramayu District Health Office, I-1)

Additionally, the preparation process for the CSE program involves collaboration among the school, the primary health care (PHC), the village head, and health cadres. This cooperation aims to enhance the quality of reproductive health services, including CSE, especially for adolescents.

"To improve the quality of services, I collaborate with the PHC in accordance with its working area and work together with the community to overcome reproductive health problems, especially in preventing adolescent pregnancy. The main thing is how to strengthen the family or family and school. Because after all, these children spend more time at school, if in the morning until noon, or in the afternoon, they are at home." (Head of Indramayu District Health Office, I-1)

However, collecting accurate data on risky sexual behavior among adolescents in the Indramayu District remains challenging because not all adolescents disclose such behaviors to health services. This issue underscored the difficulty in evaluating the effectiveness of health services and programs due to the lack of comprehensive data.

"It is difficult for us, maybe from other fields, meaning the education sector or from others, to help search for it (the data), *but unfortunately, we cannot." (Health Worker, I-2)*

Limited Information

In addition to the reported data on adolescent pregnancy, the interview results highlighted the urgent need for CSE in Indramayu District, including indications of risky sexual behavior. Many adolescents engage in risky sexual practices without considering the potential consequences, which frequently leads to unintended pregnancy.

"…when we check in certain places, for example, places that are usually used for hanging out or that are a bit dark and a bit separate. We found there are condom marks, for example, that have been used. I think they do it without knowing whether or not this will have fatal consequences, resulting in pregnancy or the potential of transmission of sexually transmitted diseases like that…" (Health Worker, I-2)

Technical Considerations

Modules and Curriculum

The interview results indicated that schools have been equipped with reproductive health modules specifically designed to address the needs and developmental stages of adolescents. However, the implementation process of these modules within the school curriculum remained uncertain. The informant indicated that the health worker predominantly provides information programs related to reproductive health.

"…we have equipped the health service program for primary school age and adolescents with reproductive health module materials because the reproductive health modules for elementary, junior high, and senior high school students are different according to their respective needs and even different from children outside school. So, we have socialized I, but whether they (schools) *implement it or not, we cannot monitor it as well." (Health Worker, I-2)*

"…for us, it might be coordination at the district level if the direct implementer is indeed the health worker." (Health worker, I-2)

The informants pointed out that while reproductive health modules have been introduced, concerns remain regarding the curriculum's ability to effectively deliver this education across schools.

"I do not know whether the curriculum at school discusses that or not, whether there is a subject that specifically discusses adolescent reproductive health, but I think it is still low." (Head of Indramayu District Health Office, I-1)

Information Providers

Information providers' role is crucial in ensuring that adolescents and school staff have access to accurate and relevant health information. The respondents noted a continued lack of reproductive health information provided to teachers in both primary and boarding schools. They obtain health information only from the school's medical center teacher.

"(I think) *the health information has not been delivered yet* (to teachers)*, but there are the school health unit's teachers. So it may have been delivered." (Health Worker, I-2)*

The respondents highlighted that while teachers may receive health information through school medical centers, no dedicated or formal training is available for teachers to enhance their knowledge on reproductive health.

"We have not conducted special training, but the PHC team has provided materials, within the limits of the existing *budget." (Head of Indramayu District Health Office, I-1)*

Furthermore, the interview results indicated that the peer-educator approach in schools, which involved students, was limited to peer-to-peer narratives, and students did not receive specific health education.

"Yes, actually, at school, (I think) *the homeroom teacher is enough, because they can be an adolescent counselor. However, I think the peer educator is probably more focused on anticipating problems because students might be more comfortable with their friends. If, for example, there are problems like that, well, it might be a bit difficult to find students who have the ability to become counsellors, if it is just knowledge and skills, maybe it can be conveyed by their homeroom teacher." (Health Worker, I-2)*

Coordination and Collaboration

Lack of Coordination

During the implementation process, CSE was manifested in counseling and demonstrations by the health workers of PHC.

"The PHC staff foster schools in their working area and conduct health checks, health literacy, counseling, health demonstration, anemia check, giving iron supplementation…" (Health Worker, I-2)

Extracurricular activities at school, such as *Dokter Kecil* (junior doctor) for elementary school-age children, also help adolescents obtain health information. At the same time, peer counselors train junior and senior high school students.

"…For us, it is more about educating the peer counselor, then for elementary school (it is called) Dokter Kecil, *and for junior high school and high school,* (it is called) *the peer counselor who educates them. So, that is where we convey it." (Health Worker, I-2)*

Lack of Collaboration

In addition to the lack of coordination, there was insufficient collaboration among the different agencies involved in CSE. For example, the Women and Children Empowerment Office of Indramayu District played an important role in preventing sexual harassment, an issue that was closely related to adolescent health and pregnancy. However, their efforts in educating women about sexual harassment prevention were not consistently integrated with other reproductive health education programs, limiting the overall impact.

"All of these have their own roles, such as the office of women and children empowerment. They delivered (about) *sexual harassment prevention and handling of violent harassment." (Health Worker, I-2)*

Integration with Other Sexual and Reproductive Health Projects

Lack of Socialization

The PHC staff, along with their partners, have been implementing CSE in schools and community settings. Additionally, the PHC also offered adolescent care health services specifically for adolescents. However, these services were currently underutilized by adolescents due to insufficient outreach and awareness.

"…in general, our friends—midwives and nurses—have a very effective position as confidants. So, we do have health services for adolescents at the PHC, although perhaps the socialization is still limited so that there are still few (of adolescent) *who use it…" (Health Worker, I-2)*

Out of School

Adolescent School Dropouts

The interview results indicated that adolescents who could not access extracurricular activities or healthcare training outside school could still obtain health information from several sources. These include friends, health posts, the internet, and community in a mosque.

"… Our target is not only those in school; there are adolescents who go to school, but there are adolescents who do not go to school because of economic factors, so we target adolescents who do not go to school with the establishment of a youth health post." (Health worker, I-2)

"…for adolescents who are out of school, (I think) *they* (possibly can) *get it from friends or maybe they access the internet. If they go to places of worship, they can also get it from there…" (Health worker, I-2)*

The establishment of the PHC, which has been in operation for two years, also provided a platform for adolescents to obtain information, such as how to be a healthy person. The positive impact they felt was like expanding their network of friends and gaining access to information about reproductive health.

"…The positive impact is that they (the adolescents) *can make friends with others. The second point is that the information on reproductive anatomy was delivered clearly. The positive impact has been seen from the start, they can manage their emotions themselves, then they understand which ones are good relationships and which ones are bad because we invite them to share* (the story) to *each other…" (NGO Officer, I-3)*

However, these interviews revealed persistent challenges in the implementation of CSE for adolescents. Many adolescents and their parents, particularly in low-income families, lacked interest and awareness regarding sexual and reproductive health. This ignorance certainly affected adolescents' behavior, including risky sexual behaviors, which were closely linked to the likelihood of adolescent pregnancies. Insufficient parental guidance regarding the importance of sexual and reproductive health information influenced adolescent behavior.

"If the target is like I said earlier, yes, if it is for students who are enthusiastic, maybe they will accept and apply it easily. But if it is in the suburbs, it might be a bit difficult (to accept), so they cannot provide certainty." (Health worker, I-2)

"Society, family upbringing, economic factors, then, being in what kind of society (you are in) *are very influential. Sorry, unintended adolescent pregnancy is quite high* (I think), *it is because of those factors. Perhaps one reason is that they are not cared for by their parents, many of whom are migrant workers. Suppose adolescents understand* (about sex)*, even though they are sexually active, they may be able to prevent* (the risk of pregnancy)*, so that they do not get pregnant, but if they do not understand and are sexually active, it could lead to pregnancy." (Health worker, I-2)*

Moreover, the persistent perceptions of society that discussing adolescent sexuality and reproductive health was taboo and inappropriate resulted in a considerable challenge in the effective implementation of CSE.

"In the beginning, yes, it was taboo. (We think that) *It is a porn, dirty, like it is not easily accepted, but our goal is to approach the village and the district government, then the parents and adolescents, so we have a three-pronged approach. We explain the benefits and involve the adolescent in the village development planning meeting, and finally, they accept this program and want to be involved in the youth health posts." (NGO Officer, I-3)*

The findings from the in-depth interviews underscored several critical challenges and opportunities in the implementation of CSE programs in Indramayu District. Advocacy for CSE and access to health services emerged as key themes, highlighting the importance of providing accurate sexual and reproductive health information to adolescents. Barriers to accessibility persist, particularly in rural and economically disadvantaged areas, as many adolescents lack access to these services. Technical considerations, including inconsistent implementation of CSE modules and underutilization of peer-educator models, indicated the need for more structured monitoring and better training for educators to ensure effective delivery. The theme of coordination and collaboration was also emphasized, with stakeholders reporting fragmented coordination between schools, health workers, and local governments, which led to inefficiencies and missed collaboration opportunities. Additionally, although CSE programs were integrated with other sexual and reproductive health services, their integration with other SRH projects remains limited due to low awareness and stigma, further hindering their impact. The challenge of reaching out-of-school adolescents was highlighted, with these adolescents often relying on informal sources for health information, indicating a gap in effective outreach efforts.

Discussion

This study highlighted the importance of CSE in preventing adolescent pregnancy in Indramayu District, which can empower them to make informed and cautious decisions regarding risky sexual behaviors. This intervention aims to

minimize the incidence of sexually transmitted diseases and promote the adoption of healthier lifestyle practices among adolescents.[17] CSE aims to equip adolescents with the necessary knowledge and skills to prevent early pregnancies, contributing to broader public health goals through this framework.

Effective advocacy reduces the obstacles and challenges to implementing and scaling up CSE, ensuring that leaders, policymakers, and educators share a common understanding of CSE.[18] Yet, interviews revealed that adolescents were not engaged as agents of change during CSE drafting and advocacy, indicating that their participation is still absent. Therefore, adolescents need to be deliberately included in decision-making and policy-making processes related to CSE.[19] Consistent with the principle of meaningful youth participation, they should be consulted, engaged, and invited to collaborate in the design, implementation, and evaluation of programs that affect them.[20] Working together with adolescents and fostering youth leadership and participation are also key to young people's ownership of CSE while ensuring broader awareness of sexual and reproductive issues, including adolescent pregnancy.[21] Moreover, this study found a lack of data on risky sexual behaviors among adolescents in Indramayu District, which underscored the importance of leveraging existing government datasets to inform more effective, evidence-based CSE strategies.[22]

Building on these advocacy concerns, the integration of reproductive health content into the Indramayu school curriculum remains incomplete, despite WHO guidance that CSE should be a compulsory subject developed with adolescent input.[23] The implementation has been inconsistent, with gaps in integrating CSE fully into the school curriculum. Inconsistent rollout and limited use of age-appropriate modules indicated systemic barriers to effective delivery. Equipping teachers and selected students as peer educators is crucial to establishing a CSE-based curriculum that can delay sexual initiation and reduce the risk of adolescent pregnancy.[24] The National Population and Family Planning Board's Generation Planning Program, launched in Indramayu District in 2019 to prepare adolescents for marriage through education, economic readiness, health, mental well-being, and demographic awareness, shows both the promise and the challenges of peer-led approaches.[25] Although the program seeks to improve reproductive health literacy and curb risky sexual behavior, its impact has been hindered by uneven village-level implementation and inconsistent monitoring, highlighting the need to strengthen local capacity and standardize delivery to meet the program's objectives.[25]

These implementation challenges were further compounded by stakeholders' weak coordination. The implementation of CSE relies on multiple initiatives—youth-friendly health posts, reproductive health extracurriculars, and PHCs—designed to reach both primary school age and adolescents. These programs aim to build knowledge, skills, and values that help young people understand their sexuality, form safe relationships, and safeguard their own and others' sexual well-being.[26] The CSE equips adolescents with comprehensive information and encourages self-respect, respect for others, and the formation of healthy relationships.[27] Despite these efforts, coordination remained weak. Many activities operate in silos, with little systematic cooperation among schools, health services, and local organizations. Interviews revealed fragmented delivery and patchy integration into the formal curriculum, which produced service overlaps and gaps. The parent-school-health service collaboration was also limited. Permissive parental attitudes toward reproductive health and reluctance to discuss the topic with children hinder both classroom and clinical interventions.[28] In contrast, Sragen District demonstrates how tight partnerships among schools, health centers, external organizations, and NGOs expand the reach and improve outcomes.[29] Other studies also revealed that collaboration with NGOs plays a critical role in addressing barriers faced by governmental programs.[30]

The fragmented approach to CSE implementation also affects its integration with other SRH projects, which remains crucial for addressing the broader context of adolescent health. This study indicated that while CSE was being implemented through various platforms, such as schools, PHCs, and community groups, it was often not coordinated effectively with other SRH initiatives. A more integrated approach is needed to create synergies between CSE and other SRH programs, ensuring a holistic approach to adolescent health. Collaboration between the health, education, and community sectors is key to providing comprehensive support to adolescents, enabling them to make informed decisions about their sexual and reproductive health.[31,32] The implications suggest that to operationalize integration, policymakers must prioritize unified funding mechanisms and interdepartmental training frameworks.

One of the critical gaps identified in this study was the lack of adequate CSE for out-of-school adolescents. The absence of structured programs for these adolescents left a significant portion of the population without access to essential sexual health information. In many cases, out-of-school adolescents are more vulnerable to risky sexual behaviors and unintended pregnancies because of a lack of formal education on these topics.[33,34] Therefore, developing outreach strategies and programs that target out-of-school youth is vital to ensure that they also benefit from CSE

initiatives. This can include peer-led initiatives, community-based education, and digital platforms that reach adolescents who are not engaged in the formal education system.[35,36]

While this study provided valuable insights into the barriers to implementing CSE in Indramayu District, its methodological limitations should be acknowledged. The limitation of this study was that the cross-sectional design did not allow exploration of causation beyond associations. Purposive sampling might limit the generalizability of the findings, although it was appropriate for targeting key informants with direct experience in CSE implementation. Since participants were selected based on specific criteria (e.g., educators (NGOs staff), policymakers, and health workers), the results might not fully represent the perspectives of stakeholders in other regions or contexts with differing sociocultural and policy environments.

Additionally, the qualitative nature of this study, though rich in depth, means that the findings are context-specific and might not be directly applicable to broader populations. Future research can employ mixed methods or larger-scale quantitative surveys to validate and extend these findings across diverse settings. Despite these limitations, this study offered critical preliminary evidence that can inform localized policy and program adjustments to strengthen CSE implementation as a strategy for preventing adolescent pregnancy. The strengths of this study lie in its in-depth qualitative approach, which allowed for a nuanced exploration of the barriers to CSE implementation from the perspectives of the program's key stakeholders directly involved in the program. By employing interviews with health workers, NGO representatives, and the adolescent reproductive health sector, the study was able to capture rich, detailed data on the challenges faced during the implementation process.

Conclusion

This study highlights critical barriers to the implementation of CSE in Indramayu District, including inadequate data on risky sexual behaviors, lack of a tailored curriculum, and limited youth engagement. A holistic approach that emphasizes systemic collaboration, youth involvement, and community ownership is necessary to overcome these challenges. Strengthening partnerships between local stakeholders and fostering youth-led initiatives will improve program outcomes, while cultural resistance can be alleviated through targeted awareness campaigns. With effective monitoring mechanisms, this strategy will facilitate the institutionalization of CSE, enabling youth to make informed sexual health decisions.

Abbreviations

CSE: Comprehensive Sexuality Education; WHO: World Health Organization; UNFPA: United Nations Population Fund; UNICEF: United Nations Children's Fund.

Ethics Approval and Consent to Participate

Health Research Ethics Committee of Faculty of Public Health, Universitas Muhammadiyah Jakarta (Approval No. 10.121.B/KEPK-FKMUMJ/V/2024).

Competing Interest

The author declares that there are no competing interests.

Availability of the Data and Materials

Data and information used as study materials can be obtained from the corresponding author upon reasonable request.

Authors' Contribution

EK, CKH, and NF analyzed and interpreted the data. EK conducted the final revision of the manuscript, which was reviewed and approved by CKH and NF.

Acknowledgment

The authors would like to acknowledge the support by UPN Veteran Jakarta for this research.

References

1. United Nations Population Fund. Understanding pathways to adolescent pregnancy in Southeast Asia: Findings from Indonesia. Melbourne: Burnet Institute; 2023.
2. Realita F, Meiranny A. Peran pendidikan dan pendapatan terhadap kehamilan remaja. J SMART Kebidanan. 2018; 5 (1): 11. DOI: 10.34310/sjkb.v5i1.147.
3. Holness N. A global perspective on adolescent pregnancy. Int J Nurs Pract. 2015; 21 (5): 677–681. DOI: 10.1111/ijn.12278.
4. World Bank. Adolescent birth rate (births per 1,000 women ages 15–19). Washington, DC: World Bank; 2020.
5. Badan Penelitian dan Pengembangan Kesehatan. Hasil Utama Riskesdas 2018. Jakarta: Kementerian Kesehatan Republik Indonesia; 2018.

6. Dinas Kesehatan Kabupaten Indramayu. Profil Kesehatan Kabupaten Indramayu Tahun 2022. Indramayu: Dinas Kesehatan Kabupaten Indramayu; 2022.
7. Noer KU, Kusmawati A, Nurfadhilah. Do not ask, do not tell: The dark path of sexual and reproductive health education in Indonesia. Multidiscip Sci J. 2024; 7 (6): 2025311. DOI: 10.31893/multiscience.2025311.
8. Rutgers WPF Indonesia. Policy brief adolescent sexual and reproductive health in Indonesia: the unfinished business. Jakarta: Rutgers WPF Indonesia; 2020.
9. Banerjee D, Rao TSS. Comprehensive sex education—why should we care? J Psychosex Health. 2022; 4 (2): 73–75. DOI: 10.1177/26318318221092076.
10. United Nations Educational, Scientific and Cultural Organization. The journey towards comprehensive sexuality education: Global status report. Geneva: United Nations Educational, Scientific and Cultural Organization; 2021.
11. Haberland N, Rogow D. Sexuality education: Emerging trends in evidence and practice. J Adolesc Health. 2015; 56 (1): S15–S21. DOI: 10.1016/j.jadohealth.2014.08.013.
12. Presiden Republik Indonesia. Peraturan Pemerintah Nomor 61 Tahun 2014 Tentang Kesehatan Reproduksi. Jakarta: Pemerintah Pusat Republik Indonesia; 2014.
13. Badan Pusat Statistik Kabupaten Indramayu. Kabupaten Indramayu Dalam Angka 2021. Indramayu: Badan Pusat Statistik Kabupaten Indramayu; 2021.
14. Warastuti D, Herawati Y, Kurniasih E. Kejadian pernikahan usia dini di Indramayu tahun 2021. J Kesehat Kebidanan. 2021; 10 (2): 62–72.
15. Dinas Pemberdayaan Perempuan Perlindungan Anak dan Keluarga Berencana. Jumlah perkawinan usia 16–19 tahun berdasarkan jenis kelamin di Jawa Barat. Bandung: Badan Pusat Statistik Provinsi Jawa Barat; 2024.
16. Nowell LS, Norris JM, White DE, et al. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. Int J Qual Methods. 2017; 16 (1). DOI: 10.1177/1609406917733847.
17. Salfadila A, Sutrisminah E, Susilowati E. Pengaruh pendidikan kesehatan terhadap pencegahan kehamilan tidak diinginkan pada remaja putri di sekolah menengah pertama: Literature review. Med Publ Prom Kesehat Indonesia MPPKI. 2023; 6 (8): 1527–1537. DOI: 10.56338/mppki.v6i8.3550.
18. Keogh SC, Stillman M, Awusabo-Asare K, et al. Challenges to implementing national comprehensive sexuality education curricula in low- and middle-income countries: Case studies of Ghana, Kenya, Peru and Guatemala. PLoS One. 2018; 13 (7): e0200513. DOI: 10.1371/journal.pone.0200513.
19. Diaz CT. Researching youth voices on comprehensive sexuality education: A literature review of qualitative studies. J Phenomenol Educ. 2024; 28 (70): 19–33. DOI: 10.6092/issn.1825-8670/18974.
20. Macfarlane S, AbouZahr C, eds. The Palgrave handbook of global health data methods for policy and practice. London: Palgrave Macmillan UK; 2019. DOI: 10.1057/978-1-137-54984-6.
21. Mukau K. Re-imagining comprehensive sexuality education delivery: The role of peer-led education in youth empowerment. Int J Stud Incl Educ. 2025; 2 (1): 29–36. DOI: 10.38140/ijsie.v2i1.1782.
22. Oskotsky TT, Yin O, Khan U, et al. Data-driven insights can transform women's reproductive health. npj Womens Health. 2024; 2: 14. DOI: 10.1038/s44294-024-00019-x.
23. Susanti D, Doni AW. Implementation of sexual education programs for adolescents in Indonesia: Narrative review. Sanitas J Teknol Seni Kesehat. 2021; 12 (1): 36–2. DOI: 10.36525/sanitas.2021.4.
24. Mulyawan B, Mailiyatuzzahro N. Implementasi program generasi berencana di Kabupaten Indramayu. J Aspirasi. 2021; 11 (2): 51–62.
25. United Nations Population Fund, World Health Organization, Federal Centre for Health Education. Comprehensive sexuality education – factsheet series. Cologne: The German Federal Centre for Health Education; 2020.
26. Barokah N, Khasanah N. Pendidikan seksual komprehensif sebagai kunci untuk merubah pandangan tentang gender pada siswa sekolah dasar. Semantik J Riset Ilmu Pendidik Bahasa Budaya. 2024; 2 (4) 318–328. DOI: 10.61132/semantik.v2i4.1137.
27. Rahmawatie D, Utami RB. Implementasi program kesehatan reproduksi berbasis sekolah di Kabupaten Sragen. J Ilm Kesehat Ar Rum Salatiga. 2024; 8 (2). DOI: 10.36409/jika.v8i2.224.
28. Atika A, Sa'adi A, Wittiarika ID. Analisis faktor yang berhubungan dengan kejadian kehamilan remaja. J Kebidanan Khatulistiwa. 2023; 10 (1): 48–55. DOI: 10.30602/jkk.v10i1.1289.
29. Amir AA, Fitri R, Zulyusri Z. Persepsi mengenai pendidikan seksual pada remaja: A literature review. Khazanah Pendidik. 2022; 16 (2): 111–116. DOI: 10.30595/jkp.v16i2.14103.
30. Yeo KJ, Lee SH, Handayani L. Effort of NGO in promoting comprehensive sexuality education to improve quality of life among local and refugee communities. Int J Eval Res Educ. 2018; 7 (1): 17–24. DOI: 10.11591/ijere.v7i1.11237.
31. Mohammed Tohit NF, Haque M. Empowering futures: Intersecting comprehensive sexual education for children and adolescents with sustainable development goals. Cureus. 2024; 16 (7): e65078. DOI: 10.7759/cureus.65078.
32. Mbizvo MT, Kasonda K, Muntalima NC, et al. Comprehensive sexuality education linked to sexual and reproductive health services reduces early and unintended pregnancies among in-school adolescent girls in Zambia. BMC Public Health. 2023; 23: 348. DOI: 10.1186/s12889-023-15023-0.
33. Hailemariam S, Gutema L, Agegnehu W, et al. Challenges faced by female out-of-school adolescents in accessing and utilizing sexual and reproductive health service: A qualitative exploratory study in Southwest, Ethiopia. J Prim Care Community Health. 2021; 12. DOI: 10.1177/21501327211018936.
34. Tarkang EE, Pencille LB, Dadah E, et al. Highly prevalent at-risk sexual behaviours among out-of-school youths in urban Cameroon. Pan Afr Med J. 2018; 30: 254. DOI: 10.11604/pamj.2018.30.254.15775.
35. Brayboy LM, McCoy K, Thamotharan S, et al. The use of technology in the sexual health education especially among minority adolescent girls in the United States. Curr Opin Obstet Gynecol. 2018; 30 (5): 305–309. DOI: 10.1097/GCO.0000000000000485.
36. Akuiyibo S, Anyanti J, Idogho O, et al. Impact of peer education on sexual health knowledge among adolescents and young persons in two North Western states of Nigeria. Reprod Health 2021; 18: 204. DOI: 10.1186/s12978-021-01251-3.