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Sexual and Reproductive Health and Right Interventions: A Systematic Review

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Abstract: The interventions are regarding SRHR in different countries vary greatly. Sexual and reproductive health and rights (SRHR) are important components to ensure that young people are able to prevent pregnancy, prevent sexually transmitted diseases and utilize health services. The aim of this systematic review is to analyze interventions that have been provided to adolescents about sexual and reproductive health problems in various countries. The authors conducted a systematic review of research examining interventions to improve sexual and reproductive health at ages 10-35 years using systematic review and meta-analysis (PRISMA) guidelines. Articles used from 2018 to 2023 database in Scopus, Science Direct, Sage Journal, and Pubmed. The authors screened titles and full texts so that data was extracted and analyzed using a practice-based narrative synthesis approach. The search produced 223 results by entering the keywords "Sexual and Reproductive Health and Rights (SRHR)", "intervention" and "adolescent" in the database. Twelve articles met the inclusion criteria using the PICOS framework. Results from the adolescent perspective regarding the interventions provided include education, carrying out HIV tests, easy access to information and health services, communication with parents about SRH, and providing economic assistance. The various interventions have been carried out to improve sexual and reproductive health in adolescents in various countries. The interventions carried out depend about needs and problems in the country regarding SRH in adolescents. The intervention evaluated programs that had been implementing by the government and providing program modifications because they were deemed effective in the previous program.

Kata Kunci:
Inovasi, intervensi, SRHR, tinjauan sistematis

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Abstrak: *Intervensi terkait Kesehatan dan Hak Seksual dan Reproduksi (SRHR) di berbagai negara sangat bervariasi. Kesehatan dan hak seksual dan reproduksi (SRHR) merupakan komponen penting untuk memastikan bahwa kaum muda mampu mencegah kehamilan, mencegah penyakit menular seksual, dan memanfaatkan layanan kesehatan. Tujuan dari tinjauan sistematis ini adalah untuk menganalisis intervensi yang telah diberikan kepada remaja tentang masalah kesehatan seksual dan reproduksi di berbagai negara. Para penulis melakukan tinjauan sistematis terhadap penelitian yang mengkaji intervensi untuk meningkatkan kesehatan seksual dan reproduksi pada usia 10-35 tahun menggunakan pedoman tinjauan sistematis dan meta-analisis (PRISMA). Artikel yang digunakan berasal dari tahun 2018 hingga 2023 dari basis data Scopus, Science Direct, Sage Journal, dan Pubmed.*

Para penulis menyaring judul dan teks lengkap sehingga data diekstrak dan dianalisis menggunakan pendekatan sintesis naratif berbasis praktik. Pencarian menghasilkan 223 hasil dengan memasukkan kata kunci "Kesehatan dan Hak Seksual dan Reproduksi (SRHR)", "intervensi", dan "remaja" ke dalam basis data. Dua belas artikel memenuhi kriteria inklusi menggunakan kerangka kerja PICOS. Hasil dari perspektif remaja mengenai intervensi yang diberikan meliputi pendidikan, pelaksanaan tes HIV, akses mudah terhadap informasi dan layanan kesehatan, komunikasi dengan orang tua tentang kesehatan seksual dan reproduksi (SRH), dan pemberian bantuan ekonomi. Berbagai intervensi telah dilakukan untuk meningkatkan kesehatan seksual dan reproduksi pada remaja di berbagai negara. Intervensi yang dilakukan bergantung pada kebutuhan dan masalah di negara tersebut terkait SRH pada remaja. Intervensi tersebut mengevaluasi program-program yang telah diimplementasikan oleh pemerintah dan memberikan modifikasi program karena dianggap efektif dalam program sebelumnya.

INTRODUCTION

Adolescent girls are population most vulnerable to unplanned pregnancy, early marriage, sexual violence and HIV because risk sexual behavior (Fan & Koski, 2022). HIV is higher among adolescent girls than among boys that caused gender-based gap in Zambia to dropout and financial shortage in adolescents (Mathur et al., 2020). The besides have an impact for health, health problem about sexual and reproductive caused adolescent dropping out of school, limiting future potential and reducing job opportunities for adolescent girlsIn the country a low and middle income, there are problems with adolescents' access to SRHR services because weakening health systems, violencing, abusing, forcing marriage and cultural norms (Krugu & van der Kwaak, 2019). There is a need for solutions to overcome problems in adolescents to challenges about sexual and reproductive health and right (SRHR) for expressing and making good decision (Kakal et al., 2022a).

There is for 7.3 million girls undering age of 18 years and 10 million girls marry every years, between the girls 46% in Sub-Saharan Africa (Dupas, 2011). There is 12% about girls aged 15-19 years who are not married but actively in sexual behavior and using contraception, that one to five the girls aged 19 years have given birth (NISR, Ministry of Health (MOH) [Rwanda] and ICF International, 2016). Indonesia faces major challenges about reproductive and sexual health issues, the birth rate for adolescent age 15–19 years is 47.4% of 1,000 female adolescent (Organization & others, 2021).

Indonesia created a regulation about adolescent stipulates that cannot engaging in sexual activity outside of marriage (Pinandari et al., 2020). This resulted adolescent sexual carried out in secret. The challenge experienced by respondent who cannot be open to discussions with other people because of shame when discussing sexual and reproductive health and myths about contraception (Chilambe et al., 2023). Urban adolesent in East Africa often use the internet and social media to access information about sex along contraception to meet information needs, but the quality of the information sought is not necessarily valid information (Wadham et al., 2019). The lack of understanding about aspects of sexual and reproductive health can be a suporting factor in attitudes, behavior and practices wrong (Slabbert, 2018). The mechanisms limited knowledge regarding for implementing interventions regarding sexual reproductive health and integration processes. This resulted in an increased need for further research regarding appropriate interventions.

Research interventions on sexual and reproductive health (SRHR) often use a risk-based approach rather than an approach to adolescent sexuality due to dominant socio-religious norms, provoke much moral, and legal (Cammock et al., 2023). Adolescents are unable to make choices about sexual behavior such as when or whom they will have sex and use of contraception. This results in sexually transmitted infections (STIs), adolescent pregnancies, abortion and even death, and maternal disability, as well as gender-based violence including child marriage which occurs in Africa (Wadham et al., 2019). There is a need for interventions for easy access to information and services about sexual and reproductive health for adolescents as well as support from family, community and policy so that the young generation can make the right decisions about their actions (Kakal et al., 2022a). Based on the explanation above, the researchers want to write a

systematic review of adolescent perspectives on sexual and reproductive health education interventions.

METHOD

Search strategy and criteria

The linkages can occur at various levels. The researchers are screening articles based on inclusion and exclusion criteria that have been determined by using the PICOS framework, which explaine in Table 1.

Table 1. PICOS framework

PICOS framework	Inclusion criteria	Eksclusion criteria
Population	Respondents aged 10-24 years	Apart from age for inclusion criteria and disability
Intervention	The interventions presented relate to Sexual and Reproductive Health and Rights (SRHR) issues	-
Comperator	There is no comparison	There is no comparison
Outcomes	The results are in accordance with research goals	-
Study design and publication type	True Experiment (Clustered Randomized Controlled Trial), a mix method that has an Experiment or RCT design	Systematic review, qualitative design
Publication years	2018-2023	Before at 2018
Language	English language	-

Data Analysis

The selection was carried out with Preferred Reporting Items for Systematic Review, as explained in Figure 1. The first step was carried out by searching for articles according to the database and keywords that had been entered. The articles were selected to remove articles that had the same title. The next step involves selecting abstracts based on the inclusion criteria that have been determined by the researcher who obtained the full text.

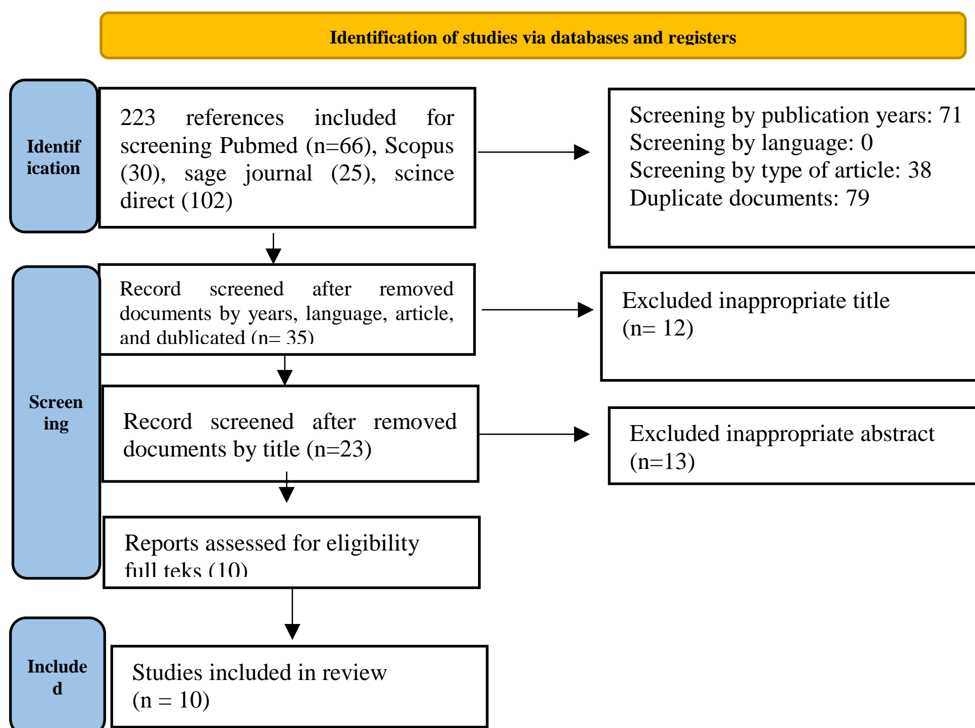

Figure 1. PRISMA flow diagram

Total of articles obtained based on keywords according to MeSh was 223 articles for further review of article eligibility. The articles were then screened based on year, language, document type and duplicate documents so that 188 articles were produced. 35 articles were obtained, and after screening again based on the suitability of the title, 12 articles were excluded. There were screening again for 23 articles based on the abstract consisting of research objectives and methods (research design and inclusion criteria). The excluded for 12 articles, so there are 11 articles left that are eligible for analysis.

The determination of research bias using The Joanna Briggs Institute (JBI) for several studies to analyze the quality of each study methodology (n=11) to assess the criteria using the values 'yes', 'no', or 'not applicable'. The scores are then calculated and added up to qualify for a grade 70% and meet the Critical Appraisal criteria with the cut-off point value agreed upon by the study researchers.

Table 2. Risk of study bias (Kakal et al., 2022b; Mbizvo et al., 2023; Muthengi & Austrian, 2018a; Namukonda et al., 2021; Nolan et al., 2020; Pinandari et al., 2023a; Renzaho et al., 2022; Todesco et al., 2023; Yakubu et al., 2019; Zulu et al., 2018a)

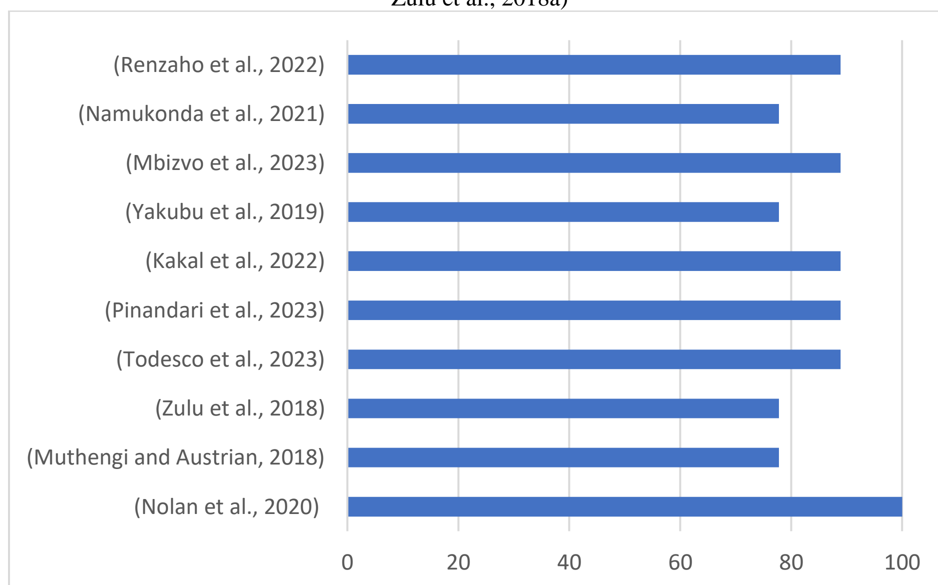

Table 1. Theme analysis of full text assessment (Kakal et al., 2022b; Mbizvo et al., 2023; Muthengi & Austrian, 2018a; Namukonda et al., 2021; Nolan et al., 2020; Pinandari et al., 2023a; Renzaho et al., 2022; Todesco et al., 2023; Yakubu et al., 2019; Zulu et al., 2018a)

Author/ years	Country	Population	SRH component	Design	Key Finding
(Nolan et al., 2020)	Rwanda	Aged between 12 until 19 years	Level of adolescent sexual and reproductive health (knowledge, intention, self-efficacy, social norms, employment, education, and training), HIV testing, contraceptive use	Randomized controlled trial (RCT)	Human-centered design, Cluster randomized controlled trial, Adolescent sexual and reproductive health, Family planning and reproductive health, Rwanda, Digital health, Hybrid type 2 effectiveness-implementation study, Uptake of modern contraceptive methods
(Muthengi & Austrian, 2018b)	Kenya	School children from grades 6 to 7	Experience of marriage and childbearing, experience of menstruation, experience of physical and sexual abuse and violence, knowledge of reproductive health,	Randomized controlled trial (RCT)	Adolescent girls, Randomized trial, Menstrual health, Kenya, Comprehensive sexuality education, Education, Reproductive health, Menstrual hygiene,

Author/ years	Country	Population	SRH component	Design	Key Finding
			perception of HIV and AIDS risk, sexual behavior		Sanitary pads, School attendance
(Zulu et al., 2018b)	Zambia	aged 14 years	Increasing education, delaying marriage or pregnancy at a young age, increasing knowledge of SRH (contraception, behavior control)	Randomized controlled trial (RCT)	Realist evaluation, Sexual and reproductive health, Community health systems, Adolescents, Zambia
(Todesco et al., 2023)	Indonesia	aged 16 to 17 years	Perceived behavioral control, attitudes, norms, and gender equality intentions related to sexual reproductive health and rights	Randomized controlled trial (RCT)	Sexuality education, socio-emotional learning competencies, sexual and reproductive health and rights, adolescents, evaluation
(Pinandari et al., 2023a)	Indonesia	aged 10 to 14 years	Knowledge, skills and attitudes regarding SRH and personal sexual wellbeing	Quasi Eksperimen	Sexuality education; Comprehensive sexuality education; Early adolescence; Young people; Sexual wellbeing; Gender norms; Intervention; Evaluation; Indonesia
(Kakal et al., 2022a)	Uganda	aged 15 to 24 years	Access to information, knowledge, and attitudes used of health services	Mix methode (eksperimen, kuantitatif, kualitatif)	Sexual and reproductive health and rights, Adolescents, Youth, Uganda, Voice, Choice
(Yakubu et al., 2019)	Ghana	aged 13 to 19 years	Sexual abstinence, knowledge, and health belief model	Randomized Controlled Trial	Sexual Abstinence, Adolescent pregnancy, Prevention, Health belief model, Ghana
(Mbizvo et al., 2023)	Zambia	aged 15 to 24 years	Knowledge and access to health services	Eksperimen	Comprehensive sexuality education, Adolescent girls and young women, Early and unintended pregnancies, Adolescent sexual and reproductive health, Sub-Saharan Africa
(Namukonda et al., 2021)	Zambia	aged 15 to 19 years	Knowledge, attitudes, SRH behavior, health services, and communication with parents about sexual and reproductive health	Mix method (intervention, kuantitatif, kualitatif)	Adolescents; family planning; HIV counselling and testing; sexual and reproductive health; comprehensive sexuality education

RESULTS AND DISCUSSION

A. Demographic data

The articles consisted of articles that met the inclusion criteria determined by the researcher using a randomized controlled trial (6), quasi-experimental (2), and mixed method (2) research design. The articles found were published from 2019 to 2024. The places where research was conducted on this research article consisted of various countries such as three articles from Zambia (Mbizvo et al., 2023; Namukonda et al., 2021; Zulu et al., 2018a), two articles from Indonesia (Pinandari et al., 2023b; Todesco et al., 2023), two articles from Uganda (Kakal et al., 2022b; Renzaho et al., 2022), one article from Rwanda (Nolan et al., 2020), one article from Ghana (Yakubu et al., 2019), and one article from Kenya (Muthengi & Austrian, 2018b). In the research articles reviewed by researchers, several ages and genders were studied.

Table 4. Frequency distribution based on gender and age (n = 10)

Variabel		f	%
Gender	Female	18.173	70,4%
	Male	7.635	29,6%
	Total	25.808	100 %

Variabel		f	%
Age	10-14 years	12.869	49,86%
	15-17 years	2.579	9.99%
	12-19 years	6.363	24,65%
	13-24 years	1.794	6,95%
	18-24 years	2.125	8,23%
	20-24 years	78	0,30%
Total		25.808	100 %

The results of Table 4 show that the majority of respondents are women (70.4%) because in three out of ten articles, research is only conducted on women. In Table 4, the age grouping varies for each article depending on each researcher, and the majority of respondents were 10-14 years (49.86%).

Table 5. Results of systematic review articles (Kakal et al., 2022b; Mbizvo et al., 2023; Muthengi & Austrian, 2018a; Namukonda et al., 2021; Nolan et al., 2020; Pinandari et al., 2023a; Renzaho et al., 2022; Todesco et al., 2023; Yakubu et al., 2019; Zulu et al., 2018a)

Author	Methods	Intervention	Results
(Nolan et al., 2020)	**Design**: randomize control trial (RCT) **Sample**: 6.000 respondents Inclusion criteria: a. The students attended learning school an early b. Between 12 to 19 years old c. Inform consent for participants aged 18–19 years and assent for participants under 18 years was provided to parents d. The willingness to provide valid contact and information for study follow-up. Schematic of the study design: a. Group 1: allocated to cyberwanda facilitated (n=2.000) b. Group 2: allocated to cyberwanda sel-service (n=2.000) c. Group 3: allocated to control (n=2.000) **Variable:** Level of adolescent sexual and reproductive health (knowledge, intention, self-efficacy, social norms, employment, education and training), CyberWanda **Instrument:** The instrument was created by the researcher himself at stage 1 of the research using interview and discussion methods **Analysis:** generalized linear mixed model (GLMM)	**Time:** There are two phases First phase: intervention designing and creating the application (July 2016-October 2018) Second phase: implementation and evaluation of CyberWanda for 24 months **Intevention:** CyberRwanda is a digital intervention for adolescents that combines story content with access to contraceptive orders. The CyberRwanda can assist teens for finding and accessing information on social topics with teen-friendly services, and accepting order contraceptive products.	Digital health interventions don't just focused on providing information or directing users to health services. The CyberRwanda from other applications is that teenagers can also access health services. From the CybeRwanda application, adolescent can reporting contraceptive use, reporting of who have ever been pregnant or become fathers, and making an HIV test for free. CyberRwanda was effective in increasing contraceptive use and testing HIV test among adolescents.
(Muthengi & Austrian, 2018b)	**Design**: *Randomized controlled trial* (RCT) **Sample**: 3.500 respondents Inclusion criteria: Adolescent girls class 7 in 2016 The school used as a researching location for class 6 to 7 and minimum occurring adolescents girl of 25 student Schematic of the study design: a. Group a: control group (875 respondents) b. Group b: giving sanitary pads (875 respondents) c. Group c: reproductive health (875 respondents) d. Group d: giving sanitary pads and reproductive health (875 respondents) **Variable:** Nia intervention, kesejahteraan remaja, and pengetahuan remaja **Instrument:** socio-demographics, education, gender, social assets and networks, self-efficacy, locus-of-control, employment, income,	**Time:** The research was conducted from May 2017 to December 2018 (18 months) **Intervention:** The Nia Project is a program to provide a package containing ten sanitary napkins every month to adolescent girls and provide education about reproductive health.	The results showed that taken were no significant differences between the study groups (p = 0.14). The Nia Program has the potential to fill gaps in the distribution of sanitary napkins to women and health education to increase knowledge about sexual and reproductive health. It is hoped that this will contribute to guiding policy makers to combine menstrual health management programs with health education.

Author	Methods	Intervention	Results
	experience of marriage and childbearing, menstrual experience, experience of physical and sexual abuse and violence, reproductive health knowledge, HIV risk perception and AIDS, sexual behavior **Analysis:** not mentioned		
(Zulu et al., 2018b)	**Design**: *Randomized controlled trial* (RCT) **Sample**: 4900 respondents Inclusion criteria: Adolescent girls in class 7 at 2016 in Zambia The adolescents ready to be a respondent for 2 years Schematic of the study design: a. Group a: control group b. Group b: the economic which supports paying school fees, financial support to girls every month, and financial support to families c. Group c: the community components for 63 schools **Variable:** RISE, SRHR, and weel-being of adolescent girls **Instrument:** pregnancies and early marriages, the adoption system, the health system characteristics, and the broader context **Analysis:** not mentioned	**Time:** two years **Intervention:** "*Research Initiative to Support the Empowerment of Girls* (RISE)" aim to reduce adolescent girls pregnancies and marriages through economic support to families and asolescents, as well as adolescent group meetings on reproductive health.	This study documents for relevant values and mechanisms integration for regarding process SRHR interventions at the community level. The knowledge of mechanisms is essential to guide development of strategies that can effectively facilitate integration processes, improve processes, and sustainable of interventions.
(Todesco et al., 2023)	**Design**: *Randomized controlled trial* (RCT) **Sample**: 466 respondents Inclusion criteria: a. The adolescents aged 16 to 17 years b. The adolescent attended high school in East Jakarta Schematic of the study design: a. Group a: control group (n=204) b. Group b: intervenstion (n=262) **Variable:** CSE, SEL, journey4life development, and behavior control **Instrument:** SEL competencies (self-awareness; self-management; social awareness; relationship skills; decision making); perceived behavioral controls, attitudes, norms, and influencing factors (based on Reasoned Action behavior theory) **Analysis:** ANOVA	**Time:** The study consisted of twelve sessions with a duration of 90 minutes over 3–5 months **Intervention:** Comprehensive sexuality education (CSE) is an intervention carried out with a curriculum-based teaching and learning process by add a learning framework in the form of socio-emotional learning (SEL) in Indonesia	There was nothing significant in this study. The results analysis variables measured such as perceived behavioral control ($p > 0.22$), gender equality attitudes ($p > 0.007$), socio-emotional learning competencies ($p > 0.04$), descriptive norms ($p > 0.012$), and intention ($p > 0.03$). The conclusion can be drawn about the effectiveness of J4L not statistically significant. There are various contextual and methodological obstacles that influence design and implementation. The CSE intervention assessments which are carried out only from statistics alone so that the results are limited.
(Pinandari et al., 2023a)	**Design**: quasy Eksperiment **Sample**: 3.335 respondents Inclusion criteria: a. The school accredited minimum AB b. Schools are willing to implement the SETARA curriculum c. Students are in grade 7 in 2018 and have approval from their parents Schematic of the study design: a. Groups a: control group (n=1.483) b. Groups b: intervention group (n=1.852)	**Time:** two years **Intervention:** The intervention of *SEmangaT duniA RemajA* (SETARA) regarded sexuality education carried out in classrooms and online due to the Covid-19 outbreak aims to support development of healthy sexuality, improve to health	There was a significant change and value in knowledge about pregnancy prevention in the control group (p=0.001). The student received to Teenage World Spirit intervention significantly greater increases in competence, including knowledge about pregnancy,

Author	Methods	Intervention	Results
	Variabel: CSE, sexuality competence, *personal sexual well-being* **Instrument:** adaptation of the 'World Starts with Me' curriculum developed by Rutgers **Analysis:** STATA version 17	and well-being of adolescents in Indonesia.	good attitudes, and communication compared to control students. Meanwhile, there was no significant impact on gender roles ($p < 0.01$). There was no influence of intervention on personal sexual well-being, except for self-efficacy to prevent pregnancy. Subgroup analysis showed a more significant impact on adolescent girls in Semarang and Denpasar, compared to adolescent boys in Lampung.
(Kakal et al., 2022a)	**Design**: mix methode (eksperiment and kualitatif) **Sample**: 3417 respondents (eksperimen) and 45 respondents (kualittaif: FGD, interview, and key informant interview) Inclusion criteria: 15-24 years Schematic of the study design: a. Group a: control group (n=1686) b. Group b: intervention (n=1731) **Variabel:** GUSO, access to information, knowledge, attitudes **Instrument:** *instruments from the Global Early Adolescent Study and Yes I Do programme* **Analysis:** Stata 15 and coding theme analysis using Nvivo 12	**Time:** three years **Intervention:** The Intervention *Get Up Speak Out* (GUSO) is a program ensures that the younger generation, and especially young women. They are empowering to realize sexual and reproductive health rights so they can make their own decisions by voicing their rights, increasing access to information, and providing a supportive environment.	There were no significant results on decisions about choosing a partner ($p=0.670$), decisions about marriage ($p=0.827$), decisions about sex ($p=0.979$), decisions about using contraception ($p=0.551$), and use of health services ($p=1.208$). Even though the results were not significant, there were changes in the intervention group, namely being able to express themselves and expand their decision-making about regarding. However, self-expression is still limited in discussing sexuality because it is considered taboo, especially for adults. This is influenced by the political and religious climate surrounding SRHR in Uganda which emphasizes sexual abstinence for unmarried young people.
(Yakubu et al., 2019)	**Design**: RCT *(Clustered Randomized Controlled Trial)* **Sample**: 363 respondents Inclusion criteria: a. Research respondents were female students at Tamale City High School, Northern Ghana b. Respondent has never been married c. Participants aged 13-19 years Schematic of the study design: a. Group a: control group (n=180) b. Group b: intervention (n=183) **Variable:** sexual prohibition, knowledge, HBM domains, demographics (age, economy, class, ethnicity, birth order)	**Time:** three years **Intervention:** *educational intervention program* is an educational program carried out in Ghana regarding sexual abstinence based on the Health Belief Model (HBM) among adolescent girls in Northern Ghana.	Educational intervention resulted in a significant difference in sexual abstinence between the intervention and control groups with a p value <0.003. Educational intervention guided by HBM increased sexual abstinence and adolescent knowledge about pregnancy prevention in the intervention group.

Author	Methods	Intervention	Results
	Instrument: six questionnaire items about health belief model, knowledge, intention, demographics **Analysis:** SPSS version 24 and ANOVA		
(Mbizvo et al., 2023)	**Design**: eksperiment **Sample**: 986 respondents Inclusion criteria: a. The respondents attended school in the Solwezi and Mufumbwe areas due to the high rate of adolescent pregnancies in these areas b. The student population, such as age, gender, and pregnancy rates at the school where the research will be conducted, must be comparable to other schools c. The students' access to health facilities is not far away d. Aged 15-24 years Schematic of the study design: a. Group a: control group b. Group b: intervention group about CSE c. Group c: intervention group about CSE and supported to access health services (Health facility workers also receive training) **Variable:** CSE and access to Health services **Instrument:** The presence of teachers trained in CSE, government facilities, gender, number of pregnancies each year **Analysis:** Stata/IC 15.1	**Time:** three years **Intervention:** The *comprehensive sexuality education* (CSE) carried out in Zambia was carried out to address knowledge gaps and increase access to SRH services to ensure appropriate information, reduce school dropout due to early and unintended pregnancies (EUP).	There was a significant reduction in pregnancies at school in the second intervention group which showed a more significant reduction by recording 0.74% of pregnancies at the end of the study ($p<0.001$) and group 3 which recorded 1.34% of pregnancies ($p<0.001$). The result was no significant decrease noted in the control group. Comprehensive sexuality education (CSE) related to access to health services and information about sexual and reproductive health. The adolescent needed this so that it can reduce pregnancy rates among teenagers and provide a higher opportunity to reduce teenagers dropping out of school in Zambia.
(Namukonda et al., 2021)	**Design**: mix method (intervention and kualitatif) **Sample**: 122 respondents (kualitatif) and 1.612 respondents (intervention) Inclusion criteria schools: a. The teachers must have been trained in seminars or workshops b. The students accessed to government health facilities c. The age/gender distribution of students, geographic residence, number of students and teachers should be comparable d. The school has recorded at least one pregnancy in the past two years Inclusion criteria respondents: a. The participants aged 15-19 years b. Under 18 years of age by providing written consent before data collection is carried out by parents **Variable:** knowledge, attitudes, health services, CSE **Instrument:** index of CSE knowledge, attitudes and values, sexual behavior, sexual and reproductive health communication with parents, socio-demographic and behavioral characteristics, and experience in utilizing health services **Analysis:** Stata 14.2 (College Station, TX, USA) and theme analysis	**Time:** three years **Intervention:** The *comprehensive sexuality education* (CSE) is combination with health services to decrease adolescent pregnancy, child marriage, and sexual risk taking.	There are differences in results on knowledge, attitudes and SRH values between male respondents ($p=0.001$) and female respondents (p,0.001). Significant differences also occurred in behavioral characteristics in accessing health services ($p<0.001$). Alternative service delivery models that directly link school-based CSE activities with SRH services must be implemented both within the school environment and in the community.
(Renzaho et al., 2022)	**Design**: *Clustered Randomized Controlled Trial* (RCT) **Sample**: 1.242 respondents Inclusion criteria:	**Time:** four years **Intervention:** The Urban Program on Livelihoods and Income Fortification and Socio-civic	There was a decrease in sexual relations in the treatment group after intervention by 11% ($p<0.05$) and consent to

Author	Methods	Intervention	Results
	a. The group most vulnerable aged between 13 and 24 years identified as to poverty, deprivation, abuse and exploitation b. The research was conducted in Makindye and Nakawa, Uganda Schematic of the study design: a. Initial stage: intervention group, 512 respondents, and control group, 151 respondents b. Follow-up stage: intervention group 456 respondents and control 123 respondents **Variable:** UPLIFT, public awareness, employability, sexual and reproductive rights **Instrument:** sexual behavior, sexual awareness/violence, sexual and reproductive rights **Analysis:** Stata version 14 (StataCorp, College Station, TX, USA).	Transformation (UPLIFT) aims to improve young people's SRHR, employability, community engagement, and disability inclusion, and to increase awareness of existing laws and policies regarding risk behavior and child protection, implemented through various youth training and empowerment approaches	sexual relations by 59% (p<0.001). There was an increase in knowledge regarding access to contraceptive use (use of condoms, pills, IUDs, or implants) by 15.1% (p<0.01), knowledge about HIV/AIDS transmission through pregnant women by 61% (p<0.001), and an increase in carrying out HIV/AIDS tests 44% (p<0.001). This study highlights the impact of intervention on many aspects of SRHR, including specific cultural beliefs and social norms regarding gender-based violence.

Discussion

The adolescent can express themselves regarding sexual and reproductive health rights depending on age, gender, and relationship status, support from people around them (peers and parents), and prevailing social norms (Kakal et al., 2022a). The increasing availability and ease of access on social media are good methods for conveying information to promote sexual and reproductive health rights among adolescents (Njogu et al., 2023). The need for appropriate interventions to change social norms around SRHR to address structural factors such as access to health and education services, laws, and policies (Malhotra et al., 2019). The interventions appropriate can be done by providing educational interventions on sexual reproductive health and economic support to reduce teenage pregnancy, marriage, and school dropout.

The educational intervention program given to adolescents based on the health belief model theory significantly increased sexual abstinence in the intervention group (Yakubu et al., 2019). The adolescent who chooses not to have premarital sexual relations because they know the negative impacts of this, such as pregnancy, infectious diseases, and dropping out of school. The chatbot application intervention was also associated with improved outcomes related to participants' ability to exercise their sexual rights, confidence in discussing contraception with sexual partners, and confidence in sharing sexual information with sexual partners (Njogu et al., 2023). The Nia Project provides sanitary napkins for teenage girls and provides training to teachers on the use and disposal of sanitary napkins (Muthengi & Austrian, 2018b).

The parents expressed difficulty discussing sex and contraception with their children, citing lack of knowledge, discomfort, and lack of time (Guilamo-Ramos et al., 2019). The community-based health system aims to strengthen sexual and reproductive health by facilitating access among adolescents and inviting parents and the community to take part in helping to reduce health challenges related to SRHR. Research conducted in Ethiopia among adolescents shows that community-based health systems can play an important role in expanding contraceptive use (Tilahun et al., 2017). In low- and middle-income countries, the community-based health system (CBHS) approach is promising in providing better sexual and reproductive health services for adolescents. (Mulubwa et al., 2020).

Previous research reported that although comprehensive sexuality education (CSE) had been implemented in the education system with parental support, the material presented was deemed not to be in accordance with norms so much of it was censored (Nyimbili et al., 2019). Additionally, information about sexual and reproductive health provided in schools through CSE

programs is not enough to motivate adolescents to seek SRH services for fear of poor treatment from health care providers and invasion of privacy (Namukonda et al., 2021). The adolescents have limited means to implement some of the practices or behaviors promoted by the CSE curriculum because of the lack of access to health services without access.

The intervention program carried out in Zambia, apart from implementing a comprehensive sexuality education (CSE) program, also provides modifications such as encouraging teenagers to access health services and collaborating with the Zambian Ministry of Health (MoH), MoGE, and adolescents in the Christian Association. The significant reduction in early pregnancies and unwanted pregnancies at school after the CSE intervention was carried out with support from health facilities (Mbizvo et al., 2023). The pregnancy is an indicator that teenagers are having sex without a condom, thereby increasing the risk of contracting sexually transmitted diseases. The studies show that CSE has great potential to provide young people with the information needed to reduce misinformation and improve their ability to make safe choices about sexual and reproductive health to prevent unintended pregnancies (Hindin et al., 2016).

The Community-based interventions program in Indonesia collaboration with the Ministry of Health and the Ministry of Education and Culture, is a mandatory program implemented through academic subjects. The Comprehensive sexuality education (CSE) has been proven effective in increasing knowledge and attitudes towards sexual and reproductive health rights (SRHR) among adolescents, although there is still little evidence regarding the results of behavior change (Montgomery & Knerr, 2018). Therefore, additional frameworks such as socio-emotional learning (SEL) are needed to be combined with comprehensive sexuality education (CSE) to increase adolescent awareness, manage emotions, and make responsible decisions (Todesco et al., 2023). The positive impact of sexuality education on knowledge about sexual and reproductive health in adolescents can help them make healthy decisions about sex.

The Get Up Speak Out (GUSO) intervention carried out in Uganda showed results in increasing knowledge and relationship status (Kakal et al., 2022a). Adolescent men have sexual relations without coercion, in contrast to young women who make the decision to have sex if their partner does not use a condom, is not clean, and is able to provide money or goods (Van Eerdewijk et al., 2017). The adolescent men said that thanks to the GUSO program, they understand more about the use of contraception, and adolescent women will end their relationship if their partner does not use contraception to avoid disease transmission and prevent pregnancy (Kakal et al., 2022a).

Digital health interventions are becoming increasingly popular; there is little evidence regarding the effectiveness of these interventions in facilitating changes in adolescent health behavior, but they can increase adolescents' knowledge (WHO, 2019). The adolescent behavior regarding sexual and reproductive activities does not only focus on preventing activities or providing education, but also on preventing risks such as unwanted pregnancies and sexually transmitted diseases. CyberRwanda aims to increase teenagers' knowledge about the use of modern contraception and offers confidential ordering of contraceptive products via the app to provide youth-friendly services. CyberWanda's intervention not only provides information about sexual and reproductive health education but also facilitates referrals to public health facilities and provides online ordering of health products (Nolan et al., 2020). Various interventions have been carried out so that teenagers can engage in risky sexual prevention behavior. Apart from teenagers, various parties are involved, such as health workers, families, schools, and the governments. The limitations of this study are that the research was conducted in various countries so that the respondents studied had different geographical locations, ethnicities, and customs.

CONCLUSION

This study describes SRHR interventions that have been implemented and modified to maximize outcomes and adapt to the needs of adolescents in each country to significantly improve

outcomes. The younger generation is expected not only increase their knowledge, but also to be able to maximize the use of health services, be able to carry out healthy behavior, and be able to make their own decisions. The findings of this review provide several insights into problems that occur in adolescents to be useful for adapting existing interventions. In addition, it is hoped that this research can provide input for parents, teachers, health workers, and the government in providing interventions and expanding their understanding of what can be done more effectively regarding SRHR for adolescents.

REFERENCES

(NISR), Ministry of Health (MOH) [Rwanda], & ICF International. (2016). *Rwanda Demographic and Health Survey 2014-2015*.

Cammock, R., Pousini, T., Andrews, M., Vaka, S., & Tautolo, E. S. (2023). Pacific high school students' experiences of sexual and reproductive health education in Aotearoa New Zealand. *Sex Education*, *00*(00), 1–15. https://doi.org/10.1080/14681811.2023.2279561

Chilambe, K., Mulubwa, C., Zulu, J. M., & Chavula, M. P. (2023). Experiences of teachers and community-based health workers in addressing adolescents' sexual reproductive health and rights problems in rural health systems: a case of the RISE project in Zambia. *BMC Public Health*, *23*(1), 1–10. https://doi.org/10.1186/s12889-023-15199-5

Dupas, P. (2011). Do teenagers respond to HIV risk information? Evidence from a field experiment in Kenya. *American Economic Journal: Applied Economics*, *3*(1), 1–34.

Fan, S., & Koski, A. (2022). The health consequences of child marriage: a systematic review of the evidence. *BMC Public Health*, *22*(1), 1–17. https://doi.org/10.1186/s12889-022-12707-x

Guilamo-Ramos, V., Bowman, A. S., Benzekri, A., Ruiz, Y., & Beltran, O. (2019). Misalignment of sexual and reproductive health priorities among older Latino adolescents and their mothers. *Contraception*, *99*(3), 179–183. https://doi.org/10.1016/j.contraception.2018.11.011

Hindin, M. J., Kalamar, A. M., Thompson, T., & Upadhyay, U. D. (2016). Interventions to prevent unintended and repeat pregnancy among young people in low-and middle-income countries: a systematic review of the published and gray literature. *Journal of Adolescent Health*, *59*(3), S8--S15.

Kakal, T., Nalwadda, C., van Reeuwijk, M., van Veen, M., Kusters, L., Chatterjee, O., Owekmeno, C., & Kok, M. (2022a). Young people's choice and voice concerning sex and relationships: effects of the multicomponent Get Up Speak Out! Programme in Iganga, Uganda. *BMC Public Health*, *22*(1), 1–13. https://doi.org/10.1186/s12889-022-13919-x

Kakal, T., Nalwadda, C., van Reeuwijk, M., van Veen, M., Kusters, L., Chatterjee, O., Owekmeno, C., & Kok, M. (2022b). Young people's choice and voice concerning sex and relationships: effects of the multicomponent Get Up Speak Out! Programme in Iganga, Uganda. *BMC Public Health*, *22*(1). https://doi.org/10.1186/s12889-022-13919-x

Krugu, J. K., & van der Kwaak, A. (2019). *RESEARCH IN BRIEF Adolescent Sexual and Reproductive Health in low-and middle income countries: A synthesis of research findings for improved program development and implementation*.

Malhotra, A., Amin, A., & Nanda, P. (2019). Catalyzing gender norm change for adolescent sexual and reproductive health: investing in interventions for structural change. *Journal of Adolescent Health*, *64*(4), S13--S15.

Mathur, S., Pilgrim, N., Patel, S. K., Okal, J., Mwapasa, V., Chipeta, E., Musheke, M., Mahapatra, B., & Pulerwitz, J. (2020). HIV vulnerability among adolescent girls and young women: a multi-country latent class analysis approach. *International Journal of Public Health*, *65*, 399–411.

Mbizvo, M. T., Kasonda, K., Muntalima, N. C., Rosen, J. G., Inambwae, S., Namukonda, E. S., Mungoni, R., Okpara, N., Phiri, C., Chelwa, N., & Kangale, C. (2023). 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*, *23*(1), 1–13. https://doi.org/10.1186/s12889-023-15023-0

Montgomery, P., & Knerr, W. (2018). *Review of the evidence on sexuality education: report to inform the update of the UNESCO International technical guidance on sexuality education*.

Mulubwa, C., Hurtig, A. K., Zulu, J. M., Michelo, C., Sandøy, I. F., & Goicolea, I. (2020). Can sexual health interventions make community-based health systems more responsive to adolescents? A realist informed study in rural Zambia. *Reproductive Health*, *17*(1), 1–15. https://doi.org/10.1186/s12978-019-0847-x

Muthengi, E., & Austrian, K. (2018a). Cluster randomized evaluation of the Nia Project: Study protocol. *Reproductive Health*, *15*(1). https://doi.org/10.1186/s12978-018-0586-4

Muthengi, E., & Austrian, K. (2018b). Cluster randomized evaluation of the Nia Project: Study protocol. *Reproductive Health*, *15*(1), 1–8. https://doi.org/10.1186/s12978-018-0586-4

Namukonda, E. S., Rosen, J. G., Simataa, M. N., Chibuye, M., Mbizvo, M. T., & Kangale, C. (2021). Sexual and reproductive health knowledge, attitudes and service uptake barriers among Zambian in-school adolescents: a mixed methods study. *Sex Education*, *21*(4), 463–479.

Njogu, J., Jaworski, G., Oduor, C., Chea, A., Malmqvist, A., & Rothschild, C. W. (2023). Assessing acceptability and effectiveness of a pleasure-oriented sexual and reproductive health chatbot in Kenya: an exploratory mixed-methods study. *Sexual and Reproductive Health Matters*, *31*(4). https://doi.org/10.1080/26410397.2023.2269008

Nolan, C., Packel, L., Hope, R., Levine, J., Baringer, L., Gatare, E., Umubyeyi, A., Sayinzoga, F., Mugisha, M., Turatsinze, J., Naganza, A., Idelson, L., Bertozzi, S., & McCoy, S. (2020). Design and impact evaluation of a digital reproductive health program in Rwanda using a cluster randomized design: study protocol. *BMC Public Health*, *20*(1), 1–15. https://doi.org/10.1186/s12889-020-09746-7

Nyimbili, F., Mainza, R., Mumba, L., & Katunansa, B. (2019). *Teacher and parental involvement in providing comprehensive sexuality education in selected primary schools of Kalomo district of Zambia*.

Organization, W. H., & others. (2021). *Sexual and reproductive health and rights: infographic snapshot: Democratic Republic of the Congo 2021*.

Pinandari, A. W., Kågesten, A. E., Li, M., Moreau, C., van Reeuwijk, M., & Wilopo, S. A. (2023a). Short-Term Effects of a School-Based Comprehensive Sexuality Education Intervention Among Very Young Adolescents in Three Urban Indonesian Settings: A Quasi-Experimental Study. *Journal of Adolescent Health*, *73*(1), S21–S32. https://doi.org/10.1016/j.jadohealth.2023.01.030

Pinandari, A. W., Kågesten, A. E., Li, M., Moreau, C., van Reeuwijk, M., & Wilopo, S. A. (2023b). Short-Term Effects of a School-Based Comprehensive Sexuality Education Intervention Among Very Young Adolescents in Three Urban Indonesian Settings: A Quasi-Experimental Study. *Journal of Adolescent Health*, *73*(1, Supplement), S21–S32. https://doi.org/https://doi.org/10.1016/j.jadohealth.2023.01.030

Pinandari, A. W., Page, A., Oktavitie, I. T., Herawati, E., Prastowo, F. R., Wilopo, S. A., & van Reeuwijk, M. (2020). *Early Adolescents' Voices in Indonesia: A Qualitative Exploration of Results from The Global Early Adolescent Study*. *September*, 1–96. https://rutgers.international/wp-content/uploads/2021/03/YVR2-ENG.pdf

Renzaho, A. M. N., Kamara, J. K., Doh, D., Bukuluki, P., Mahumud, R. A., & Galukande, M. (2022). Do Community-based Livelihood Interventions Affect Sexual and Reproductive Health and Rights of Young People in Slum Areas of Uganda: a Difference-in-difference with Kernel Propensity Score Matching Analysis. *Journal of Urban Health*, *99*(1), 164–189. https://doi.org/10.1007/s11524-021-00596-1

Slabbert, A. M. (2018). *Identity, self-regulation, and gender inequality: Sexual and reproductive health and rights of Adolescent girls and Female sex workers In South Africa*. Utrecht University.

Tilahun, Y., Lew, C., Belayihun, B., Hagos, K. L., & Asnake, M. (2017). Improving contraceptive access, use, and method mix by task sharing Implanon insertion to frontline health workers: the experience of the Integrated Family Health Program in Ethiopia. *Global Health: Science and Practice*, *5*(4), 592–602.

Todesco, M., Breman, J., Haryanto, N. N., Kok, G., & Massar, K. (2023). Effect evaluation of a comprehensive sexuality education intervention based on socio-emotional learning among adolescents in Jakarta, Indonesia. *Frontiers in Public Health*, *11*.

Van Eerdewijk, A., Wong, F., Vaast, C., Newton, J., Tyszler, M., & Pennington, A. (2017). *White paper: A conceptual model on women and girls' empowerment*.

Wadham, E., Green, C., Debattista, J., Somerset, S., & Sav, A. (2019). New digital media interventions for sexual health promotion among young people: a systematic review. *Sexual Health*, *16*(2), 101–123.

WHO. (2019). *recommendations on digital interventions for health system strengthening Evidence and Recommendations.pdf*.

Yakubu, I., Garmaroudi, G., Sadeghi, R., Tol, A., Yekaninejad, M. S., & Yidana, A. (2019). Assessing the impact of an educational intervention program on sexual abstinence based on the health belief model amongst adolescent girls in Northern Ghana, a cluster randomised control trial. *Reproductive Health*, *16*(1), 1–12. https://doi.org/10.1186/s12978-019-0784-8

Zulu, J. M., Goicolea, I., Kinsman, J., Sandøy, I. F., Blystad, A., Mulubwa, C., Makasa, M. C., Michelo, C., Musonda, P., & Hurtig, A.-K. (2018a). Community based interventions for strengthening adolescent sexual reproductive health and rights: How can they be integrated and sustained? A realist evaluation protocol from Zambia. *Reproductive Health*, *15*(1). https://doi.org/10.1186/s12978-018-0590-8

Zulu, J. M., Goicolea, I., Kinsman, J., Sandøy, I. F., Blystad, A., Mulubwa, C., Makasa, M. C., Michelo, C., Musonda, P., & Hurtig, A. K. (2018b). Community based interventions for strengthening adolescent sexual reproductive health and rights: How can they be integrated and sustained? A realist evaluation protocol from Zambia. *Reproductive Health*, *15*(1), 1–8. https://doi.org/10.1186/s12978-018-0590-8