

Educational Media to Improve Reproductive Health Knowledge among Adolescents: A Systematic Review

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ABSTRACT

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Adolescents often lack knowledge among adolescents regarding reproductive health can lead to many issues related for adolescent. Education to improve adolescents knowledge about reproductive health is important, but the best and most suitable educational media remains varied. This systematic review aims to identify the most effective educational media for improving reproductive health knowledge among adolescents. A systematic review was conducted following the PRISMA guidelines. Literature was retrieved from PubMed, ScienceDirect, and ProQuest databases, as well as manual searches, using the keywords: adolescence AND reproductive health OR reproduction health AND media of education. Inclusion criteria consisted of original studies published in English from 2018 to 2024, with a focus on educational media interventions related to adolescent reproductive health. A total of 6,295 articles were initially identified, and after applying eligibility criteria, 10 articles were included in the final analysis. The educational media found in the selected studies included printed materials (books and magazines), peer education, policy maker involvement, mobile applications, games, and social media. Among these, peer education was found to be the most effective in increasing reproductive health knowledge among adolescents. Educational media play a crucial role in improving adolescents' understanding of reproductive health. Selecting the appropriate media, particularly peer-based education, is a key strategy to enhance knowledge and promote healthy reproductive behaviors among adolescents.

ABSTRAK

Kurangnya pengetahuan remaja mengenai kesehatan reproduksi dapat menimbulkan berbagai masalah pada remaja. Media edukasi untuk meningkatkan pengetahuan remaja tentang kesehatan reproduksi sangatlah penting. Tetapi media edukasi yang terbaik masih begitu beragam. Tinjauan sistematis ini bertujuan untuk mengidentifikasi dan mengevaluasi jenis media edukasi yang paling efektif dalam meningkatkan pengetahuan kesehatan reproduksi pada remaja. Penelitian ini menggunakan metode tinjauan sistematis berdasarkan panduan PRISMA. Literatur diperoleh dari database PubMed, ScienceDirect, dan ProQuest serta pencarian manual dengan kata kunci: Remaja AND Kesehatan Reproduksi OR Kesehatan Reproduksi AND Media Pendidikan. Kriteria inklusi meliputi artikel asli berbahasa Inggris yang diterbitkan antara tahun 2018 hingga 2024, dan membahas intervensi media edukasi terkait kesehatan reproduksi remaja. Dari total 6.295 artikel yang ditemukan, 10 artikel memenuhi kriteria untuk dianalisis lebih lanjut. Media edukasi yang diidentifikasi dalam penelitian meliputi media cetak (buku dan majalah), pendidikan sebaya, keterlibatan pembuat kebijakan, aplikasi digital, permainan, dan media sosial. Di antara semua jenis media, pendidikan sebaya terbukti paling efektif dalam meningkatkan pengetahuan kesehatan reproduksi pada remaja. Media edukasi memiliki peran penting dalam meningkatkan pemahaman remaja terhadap kesehatan reproduksi. Pemilihan media yang tepat, terutama pendekatan pendidikan sebaya, menjadi strategi utama untuk meningkatkan pengetahuan dan

membentuk perilaku reproduktif yang sehat pada remaja.



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A. INTRODUCTION

Adolescence is a critical period marked by rapid physical, social, and psychological development (Park & Lee, 2020). Teenagers are seen as agents of future development as they enter the era of the demographic bonus. This phase also marks their transition toward adulthood and family life. However, adolescents today face various challenges that may impact their well-being, particularly in the area of reproductive health. Several studies highlight risky reproductive health behaviours among adolescents globally. For instance, in the United States, approximately 14% of female and 4% of male high school students reported having engaged in sexual activity (Akande et al., 2024). Study other also there is in country ginseng or Korean with data found 5.7% of sexual risk behavior (Park & Lee, 2020). Each year, around 12 million girls worldwide are married before the age of 18. Indonesia ranks eighth globally in child marriage prevalence, with 16% of girls married before reaching 18 years (Lestari & Nurjanah, 2022)

Adolescent reproductive health is influenced by multiple factors, including predisposing factors (knowledge and attitudes), enabling factors (access to information), and reinforcing factors (family, teachers, and peers) (Nurrahman et al., 2020). Low reproductive health education is influenced by several factors that have been reported such as knowledge. In addition, individual perceptions such as vulnerability, benefits and perceived barriers and support from family and peers also affect the level of service utilization Lack of adolescent knowledge about reproductive health is partly due to limited access to information for Indonesian adolescents (Handayani & Yati, 2020). Although reproductive health education exists, its implementation and utilization among adolescents remain suboptimal. A study in Ethiopia showed that 62.8% of adolescents aged 15–24 had never accessed reproductive health services (Abajobir & Seme, 2014).

Health promotion efforts must therefore be aligned with the characteristics and preferences of adolescents. Educational media—including games, social media, peer discussion, and printed materials—can enhance adolescent engagement and learning. Games, in particular, provide a fun and interactive way to promote knowledge, improve attitudes, and increase participation in health behaviors (Malhotra & Elnakib, 2021). Lack of understanding and knowledge is one of the factors that influence the high number of cases of deviant sexual behavior. The use of appropriate and interesting methods and media will be more effective in increasing knowledge. Health education methods delivered through media such as socialization, counseling, coaching, snakes and ladders games are very easy and interesting for teenagers so that the messages conveyed will be easy to understand (Juwita, 2020). While various educational interventions for reproductive health have been introduced, there is limited synthesis of which types of educational media are most effective for adolescents. Previous studies tend to focus on specific media formats without comparative evaluation or comprehensive reviews.

B. METHODS

This study is a systematic review conducted in accordance with the preferred reporting

items for systematic reviews and meta-analyses (PRISMA) guidelines. The aim was to identify and analyze educational media used to improve reproductive health knowledge among adolescents. Literature was systematically searched across three major electronic databases: PubMed, ScienceDirect, and ProQuest. Additional manual searches were conducted to ensure the inclusion of relevant articles not indexed in these databases. The search was performed using the following keyword combinations (adolescence) AND (reproductive health OR sexual and reproductive health) AND (educational media OR media of education). Boolean operators were applied to broaden the scope of the search. The search was limited to articles published from January 2018 to February 2024, ensuring the inclusion of the most recent and relevant studies. Inclusion criteria original research articles (quantitative, qualitative, or mixed-method studies), Studies focusing on adolescents aged 10–24 years, Articles discussing educational media as an intervention to improve reproductive health knowledge, full-text availability, published in english, free or open-access journals. Exclusion criteria review articles, meta-analyses, editorials, letters to the editor, and book chapters, studies not focusing on educational interventions, articles with only abstract availability, non english language publications, Duplicates and grey literaturE. The selection process followed four main stages, 1) identification: a total of 6,295 records were retrieved from the databases: PubMed (n=388), ProQuest (n=3,384), and ScienceDirect (n=2,523), 2) screening: after removing duplicate records (n=6,160), the remaining articles were screened based on title and abstract, 3) eligibility assessment: a total of 72 full-text articles were assessed for eligibility based on the inclusion and exclusion criteria, 4) Inclusion: finally, 10 studies met all eligibility criteria and were included in the systematic review. The process is illustrated in a PRISMA flow diagram (Figure 1), detailing the number of articles at each stage.

Table 1. PICO Settings

Study Design	Publication Data
Population	teenagers aged 10-24 years
Interest	Use of educational media (e.g. videos, games, applications, online modules)
Comparison	-
Outcome	To found the best educational media about reproductive health for adolescence

entification

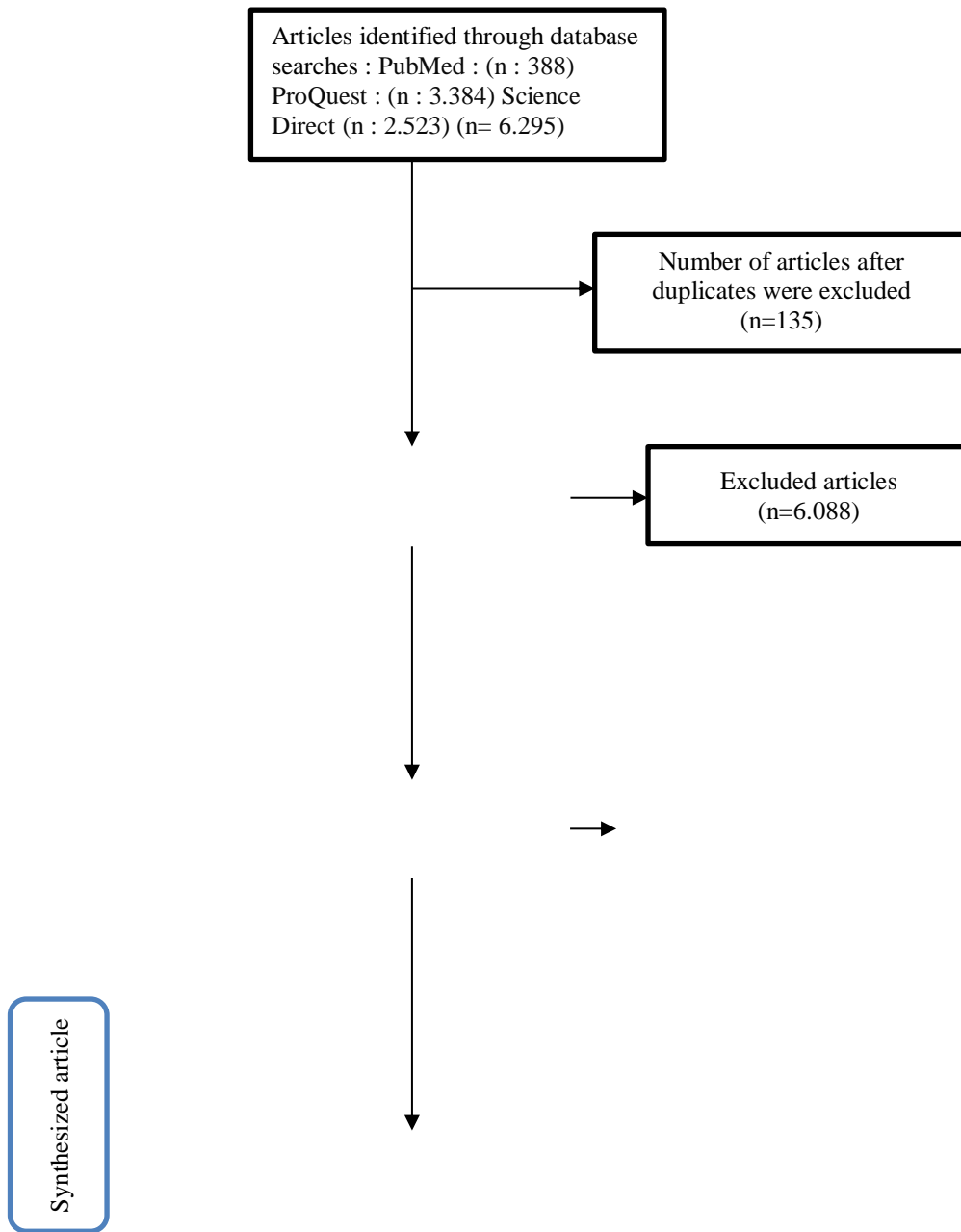


Figure 1. PRISMA Flow diagram

Table 2. Overview of the studies

No	Author & Year	Country	Title	Participant	Method	Result
1	(Zulu et al., 2022)	Zambia	Application of community dialogue approach to prevent adolescent pregnancy, early marriage and school dropout in Zambia	6 schools in Chibombo District of Central Province.	Case study design	The study indicated that the community dialogue was appreciated by the parents and helped in addressing cultural barriers to discussing SRH issues between generations.
2	(Akande et al., 2024a)	Nigeria	The effectiveness of an m-Health intervention on the sexual and reproductive health of in-school adolescents: a cluster randomized controlled trial in Nigeria	1280 adolescents	Randomized into intervention and control groups.	The mHealth-based CSE was effective in improving SRH knowledge and attitude among in-school adolescents. This strategy should be strengthened to bridge the SRH knowledge and attitude gap among in-school adolescents
3	(Ito et al., 2022)	Tanzania	Secondary school students' and peer educators perceptions of adolescent education in rural Tanzania: a qualitative study	A total of 92 students (57 girls and 35 boys)	a qualitative descriptive study	The peer education process helps students gain confidence in teaching their peers and elicit behavior changes. Adult supervision for peer educators is recommended.
4	(Ahinkorah et al., 2023)	Ghana	Knowledge and awareness of policies and programs to reduce adolescent pregnancy in Ghana: a qualitative study among key stakeholders	30 adolescence	qualitative study design involving semi-structured interviews	Greater engagement of stakeholders in future policy development should increase policy awareness. Dissemination of policy content through community-based media channels and in local languages should promote and facilitate stakeholder engagement, which

						in turn should increase effective policy implementation with subsequent reduction of adolescent pregnancy.
5	(Alekhya et al., 2023)	India	Effectiveness of school-based sexual and reproductive health education among adolescent girls in Urban areas of Odisha, India: a cluster randomized trial	a total of 790 students	The study design was a cluster randomized trial, knowledge, attitude, and practices	there is a significant proportional change in knowledge, attitude, and practices regarding SRH. Our study recommends policymakers and program managers for the implementation of comprehensive SRH in the regular school curriculum.
6	(Akande et al., 2024)	Tanzania	Provision of sexual health education in secondary schools: A multidisciplinary lens of stakeholders in the southern highlands, Tanzania	50 participants in total	A qualitative approach under cross-sectional design	The study concludes that stakeholders in the study areas have a positive attitude towards the provision of sexual health education in secondary schools and want students to be taught a wide range of topics before they initiate sexual activity. It is recommended that age-appropriate comprehensive sexuality education be given to teenagers to provide them with the knowledge they need to make informed decisions about their sexuality.
7	(Fatimah et al., 2021)	Indonesia	Media communication and youth reproductive health, North	115 adolescents ,	A descriptive quantitative	The results showed that the printed communication media of books and magazines as a

			Toraja District			source of preference to obtain reproductive health information.
8	(Tafa Segni et al., 2020a)	Ethiopia	Reproductive health right practice among prepatory school female students of Assela Town, Arsi Zone, Oromia Regional State, Ethiopia	403 female studies	A cross-sectional study	Majority of the respondents were knowledgeable about reproductive health right and had a discussion reproductive issues with their peers. The majority of the respondents knew, at least, one type of contraceptive method but with lower utilization. It is recommended that schools should establish club to promote sexual and reproductive health issues and rights
9	(Budiman et al., 2020)	Indonesia	Differences in adolescent knowledge about Generation Planning (GenRe) based on the characteristics of adolescents in the Ngepring Family Planning Village	123 adolescence	A cross-sectional study	Teenagers knowledge who are members of the PIK-R genre community have higher knowledge related to ideal marriage age, basic risk health reproduction on Teenager compared to teenagers who don't join in the PIK genre-R
10	(Alimoradi et al., 2019)	Iran	Iranian Adolescent Girls' Perceptions of Premarital Sexual Relationships : A Qualitative Study	18 adolescence	A cross-sectional study	there is a need for health education in preparation for family and sexual health for teenagers and parents to improve health reproductive.

C. RESULT AND DISCUSSION

After the researchers carried out data selection and extraction, the result of this literature study found the number of articles obtained from the search was 6,295 articles which were then filtered. with criteria which in accordance then found a number of 72 article. Then the article is selected with abstract/title, and full text so that a number of worthy articles are found 10 articles. Researcher find 10 articles which to discuss related media education in improving reproductive knowledge for adolescents educational media about increasing reproductive knowledge for adolescents that emerged in the research among them is media education based on A forum for community dialogue between parents has been shown to help overcome cultural barriers in discussing intergenerational issues (Zulu et al., 2022).

In this study it was stated that many teenagers still do not know about aspects of reproductive health such as menstruation and what can happen during pregnancy and what nutrients need to be prepared before marriage. Sources of information about reproductive health are also not yet known in general correct and effective. The challenge is that parents still consider it taboo.

On study other , media education in increasing knowledge about reproductive health for adolescents is through a m-Health based applications that have proven to be effective in increasing adolescent knowledge and attitudes about reproductive health among schools. Research which done by (Akande et al., 2024b) have the view that this strategy should be strengthened to bridge the gap in knowledge and attitudes about reproductive health and reproduction among school adolescents.

Other research by (Ito et al., 2022) the peer education process helps students gain confidence in becoming peers to have an impact on changing behavior related to reproductive health. The peer approach is one indicator of differences in adolescent behavior in looking at a phenomenon what happens is that teenagers have high self-confidence towards himself in a better direction.

Next Study by (Ahinkorah et al., 2023) on research It is stated that stakeholder involvement has effectiveness in the dissemination of educational content related to reproductive health which in turn will increase effective policy implementation with reduced teenage pregnancies in the future.

Next study by (Alekhya et al., 2023) on research this similar to research conducted by (Ahinkorah et al., 2023) namely analyzing how important policy makers are as intermediaries in providing education about reproductive health for adolescents. Through policy makers there are significant proportional changes in knowledge, attitudes, and practices related to reproductive health and reproduction (SRH). Our study recommends policy makers and program managers to implement comprehensive reproductive health and reproduction in the regular school curriculum.

Further research through research conducted by (Kamangu & Mbago, 2024) still the same as stakeholders in the study area have positive attitudes towards the provision of sexual health education in secondary schools and want students to be taught a variety of topics before they start sexual activity. It is recommended that comprehensive, age-appropriate sexuality education be provided to adolescents to provide them with the knowledge they need to make informed decisions about their sexuality.

Next study found a process media education which different (Fatimah et al., 2021) this study shows that printed communication media in the form of books and magazines are the preferred source for obtaining reproductive health information. Media education in form communication print book and magazine become source choice to obtain reproductive health information with a calculation of 57.39%, followed by websites 27.83% and Social media by 14.78%.

Other research from (Tafa Segni et al., 2020) has a similar object to the research conducted by namely with peers as a medium in exchanging information related to (Ito et al., 2022) reproductive health issues . The findings here show that adolescents still have very little access to information about reproductive health.

According (Budiman et al., 2020), educational media for teenagers can be carried out through a health-based community called PIK-R (Youth Counseling Information Center). PIK-R community have higher knowledge regarding the ideal age of marriage, basic reproductive health risks compared to teenagers who are not members of the PIK-R community. This research emphasizes that government programs need to pay attention to the characteristics of adolescents in delivering education. Information about family planning and adolescent resilience delivered according to the characteristics of each adolescent will be able to improve the material presented.

In research by (Alimoradi et al., 2019) in this research analyzed the factors that influence the perceptions of Iranian adolescent girls regarding premarital sexual relations. In this study, it was found that there were conflicts caused by family, school and peers which necessitated the importance of building parent-adolescent communication about sexual issues. The findings of the research show that there is a need for health education in preparation for family and sexual health for teenagers and parents to improve health reproductive.

D. CONCLUSION AND SUGGESTIONS

This systematic review aimed to identify the most effective educational media to improve reproductive health knowledge among adolescents. Based on the analysis of ten eligible studies, various types of media were identified, including peer education, printed materials, mobile applications, social media, games, community dialogue, and policy-based programs. Among these, peer education and m-health interventions emerged as the most consistently effective approaches in increasing adolescents' knowledge and positively influencing their attitudes and behaviors. These strategies leverage adolescents' social dynamics and technological engagement, making them highly adaptable across different settings. In line with the research objective, this review confirms that choosing appropriate educational media tailored to the needs and contexts of adolescents is crucial in strengthening reproductive health education. The findings provide a strong foundation for developing evidence-based, culturally sensitive interventions that can be applied in schools, communities, and health promotion programs.

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