

Health Literacy Model to Improve Adolescent Reproductive Health

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ABSTRACT

Adolescent reproductive health is an important aspect of public health development in Indonesia, where many adolescents face challenges in accessing accurate information and health services. Lack of reproductive health education, cultural stigma, and limited access to health services exacerbate this problem, so comprehensive sexual education (CSE) and improvements in service delivery are needed. The development of a health literacy model that utilizes digital tools and educational resources is essential to empower adolescents to make informed decisions and reduce risks related to early sexual activity and other reproductive health problems. This study employs a mixed-methods approach, combining qualitative and quantitative techniques. The first stage uses Structural Equation Modeling - Partial Least Squares (SEM-PLS) to test the impact of various factors on adolescent reproductive health literacy, while the second stage applies qualitative analysis using the Miles and Huberman Model to gain deeper insights into the collected data. The results of the study stated that the Adolescent Reproductive Health Literacy model through a factor-based approach that affects reproductive health literacy has the potential to increase adolescents' understanding of sexual and reproductive health. With a focus on key components such as the Kesprorem Team, Media Literacy Program, Reproductive Health Media Production, Adolescent Reproductive Health Campaign, and Reproductive Health Research, the program is expected to have a positive impact on adolescents at the village and school levels. Interrelated factors, such as knowledge, attitudes, media access, social support, policies, and technological innovations, work together to create an ecosystem that supports adolescent reproductive health literacy.

Keyword: Adolescents; Education; Health Literacy; Reproductive Health; and Technology

INTRODUCTION

Adolescent reproductive health is one of the important aspects of public health development. Adolescents, as an age group that is in a transitional phase between children and adults, face various challenges in understanding, accessing, and practicing information related to reproductive health. This problem is often exacerbated by a lack of adequate reproductive health education, social norms that limit open discussion, and limited access to adolescent-friendly health services. The importance of this topic is underscored by the need for comprehensive education and accessible health services, which can reduce the risks associated with early sexual activity, unwanted pregnancies, and sexually transmitted infections.

Barriers such as cultural stigma and inadequate healthcare infrastructure hinder adolescents' access to reproductive health services (Sidamo et al., 2024). Youth-friendly services and community engagement are essential to improve access to and utilization of these services (Zahara et al., 2024) (Sidamo et al., 2024). Effective policies should focus on expanding sexual education and improving service delivery to meet the unique needs of adolescents (Sidamo et al., 2024). Involving families and communities can foster a supportive environment for adolescents to seek reproductive health services (Sidamo et al., 2024). Adolescent reproductive health significantly affects individual well-being and public health outcomes. The high rate of teenage pregnancy and sexually transmitted infections (STIs) highlights a critical gap in reproductive health literacy among adolescents. Research suggests that while adolescents may have access to information, they often struggle to apply this knowledge effectively, leading to risky sexual behaviors (Muhlisa et al., 2024). In addition, research shows that a large percentage of adolescents have limited sexual and reproductive health literacy, with 74.5% in Ethiopia reporting inadequate knowledge (Debella et al., 2024). Comprehensive sexuality education (CSE) is essential in addressing this issue, as it equips young people with the necessary skills and knowledge to make informed decisions about their sexual health (Thelma et al., 2024).

Many adolescents have limited knowledge about reproductive health, often relying on social media for information (Tamaulina and Novalina, 2024). Therefore, comprehensive sexual education in schools is very important to increase understanding and reduce risky behaviors (Zahara et al., 2024). Educational interventions have shown positive effects on adolescents' knowledge and attitudes towards reproductive health (Suryana et al., 2024). Key Factors Affecting Reproductive Health Literacy. Where in access to information adolescents often rely on peers for information rather than trusted adults, which can lead to misinformation (Muhlisa et al., 2024). There are educational gaps such as Many school curricula focus narrowly on pregnancy prevention, ignoring the broader topic of reproductive health (Biswakarma et al., 2024). There is a socioeconomic influence of adolescents' ability to access health care significantly correlated with their reproductive health literacy (Debella et al., 2024). This shows the importance of comprehensive education. Empowerment through Knowledge such as CSE programs has been shown to reduce teen pregnancy rates by

promoting informed decision-making and safer sexual practices (Thelma et al., 2024). Adapting education to the needs of the community increases engagement and effectiveness (Biswakarma et al., 2024).

Based on global and national data, adolescents often have an understanding of reproductive rights, integration, and how to protect themselves from STIs. The results of the Indonesian adolescent reproductive health survey (SKRRI) 2017 stated that currently the number of women and men aged 15-24 years who are not married and married is premarital sex in women aged 15-19 years as much as 0.9%, women aged 20-24 years 2.6%, while men aged 15-19 years as much as 3.6% and ages 20-24 years as much as 14.0% (SDKI Team, 2018). According to the 2017 demographic and Health Survey (DHS), the prevalence of sexual activity in young men aged 15-19 is about 3.6%, while for men aged 20-24 it is about 14.0%. There were differences of opinion made about sexual activity, with the three main opinions being: mutual love (46.1%), curiosity / knowing (34%), and it being just the beginning spontaneously (15.4%) (Warta et al., 2022).

This indicates the need for a more holistic approach in improving reproductive health literacy. One effective approach is the development of a health literacy model specifically designed to improve adolescents' understanding and ability to manage their reproductive health. Health literacy refers to the ability of individuals to acquire, understand, and use health information to make informed decisions. This model has the potential to be a strategic tool in empowering adolescents to be more aware of their reproductive rights, improve healthy behavior, and reduce the risk of reproductive health problems.

The development of a tailored health literacy model for adolescents is essential to improve their understanding and management of reproductive health. The model can address the diverse influences on health literacy, including social environment and personal experiences, which are important for effective learning and decision-making in this demographic. The Comprehensive Health Literacy Model, namely Micro, Meso, Macro, and Chronosystems, is a model that combines various systems that affect adolescent health literacy, emphasizing the role of family, peers, and the media (Sommer et al., 2024). This can be done using digital tools that show how technology can effectively improve adolescent reproductive health knowledge, achieving an 80% increase in understanding (Kumalasari & Jaya, 2024). The Sexual Health Literacy Measurement Tool (SHL-PPA) provides a structured approach to assessing and improving adolescent sexual health literacy, with a focus on accessibility, understanding, and application of information (Thongnopakun et al., 2023).

Other research states that this model takes a gender-specific approach. Research shows significant gender differences in sexual and reproductive health literacy, with girls often scoring lower than boys (Lee, 2022). Tailoring interventions to address these differences can improve effectiveness. While these models and tools show hope, challenges remain in ensuring equitable access to information and resources, especially in low-income areas where adolescents may face additional barriers to health literacy. However, the approach to health

literacy in adolescents must consider various factors, such as age, education level, cultural context, and access to technology. In this digital era, information and communication technology can be used to convey reproductive health information in an interesting, interactive, and appropriate way to the needs of adolescents. The combination of formal education, guidance from health workers, and the use of digital media can be an effective solution in overcoming the challenge of reproductive health literacy in adolescents.

Adolescent health literacy, especially regarding reproductive health, can be significantly improved through a multifaceted approach that combines digital tools, educational resources, and professional guidance. This strategy recognizes the unique needs of adolescents, including age, educational background, cultural context, and access to technology. Its misapplication is through digital tools and interactive learning such as mobile apps and virtual reality. This technology provides personalized and engaging health information tailored to adolescents' preferences (Mancone et al., 2024). Leveraging platforms such as Instagram and Twitter for health education aligns with adolescents' digital habits, increasing engagement and knowledge retention (Cilubai & Maheswari, 2024).

The importance of the role of education where schools play an important role in promoting digital health literacy, providing a structured learning environment that encourages the responsible use of health information (Almeida et al., 2023). Guidance from healthcare providers can improve adolescents' understanding and application of health information, ensuring they make informed decisions (Mancone et al., 2024). While the integration of digital tools and educational resources is promising, challenges remain, such as addressing misinformation and ensuring equitable access to technology. These factors must be considered to create an effective health literacy program for all adolescents. Implementation is carried out with co-design and educational resources by involving adolescents in the co-design of educational resources ensuring that the content is relevant and engaging, meeting their specific needs and concerns (Lewis et al., 2024). Workshops focusing on digital health literacy can empower adolescents to critically evaluate health information and navigate the digital environment (Project & Winterthur, 2023).

Based on this background, developing a Health Literacy Model to improve adolescent reproductive health is important as a preventive and promotive effort to reduce reproductive health problems. This model is expected to be the foundation for formulating sustainable policies, educational programs, and community-based interventions to support optimal adolescent health.

METODOLOGI

This study uses a combined approach between qualitative and quantitative with a descriptive method which is carried out through two stages. The first stage is to test the influence of various variables on factors that affect adolescent reproductive health literacy. These factors include knowledge and

understanding, attitudes and behaviors, media and access to information, environment and social support, health policy and services, and technology and innovation. The analysis at this stage was carried out using the statistical method of Structural Equation Modeling - Partial Least Squares (SEM-PLS) to empirically identify the relationship between variables. Furthermore, in the second stage, the collected data is analyzed using a qualitative approach with the Miles and Huberman Model. According to (Sugiyono, 2019) qualitative research aims to study phenomena in a natural context with researchers as the main instrument. The data analysis in this approach is inductive, with a combination data collection technique, and the study results emphasize meaning more than generalization. The data that has been collected is then analyzed using the Miles and Huberman Model, which consists of data reduction stages, data presentation, and conclusion (Sugiyono, 2019) The combination of these two stages aims to form a holistic and comprehensive adolescent reproductive health literacy model.

RESULT AND DISCUSSION

The results of the analysis of the influence of reproductive health literacy factors on adolescents' understanding of sexual and reproductive health. In addition, there will also be a discussion related to the development of the Adolescent Reproductive Health Literacy Model which is designed to improve adolescent reproductive health literacy through an approach based on factors that affect literacy. This discussion aims to provide an in-depth overview of the factors that affect reproductive health literacy and the effectiveness of the model developed in improving adolescent understanding.

Analysis of the Influence of Reproductive Health Literacy Factors

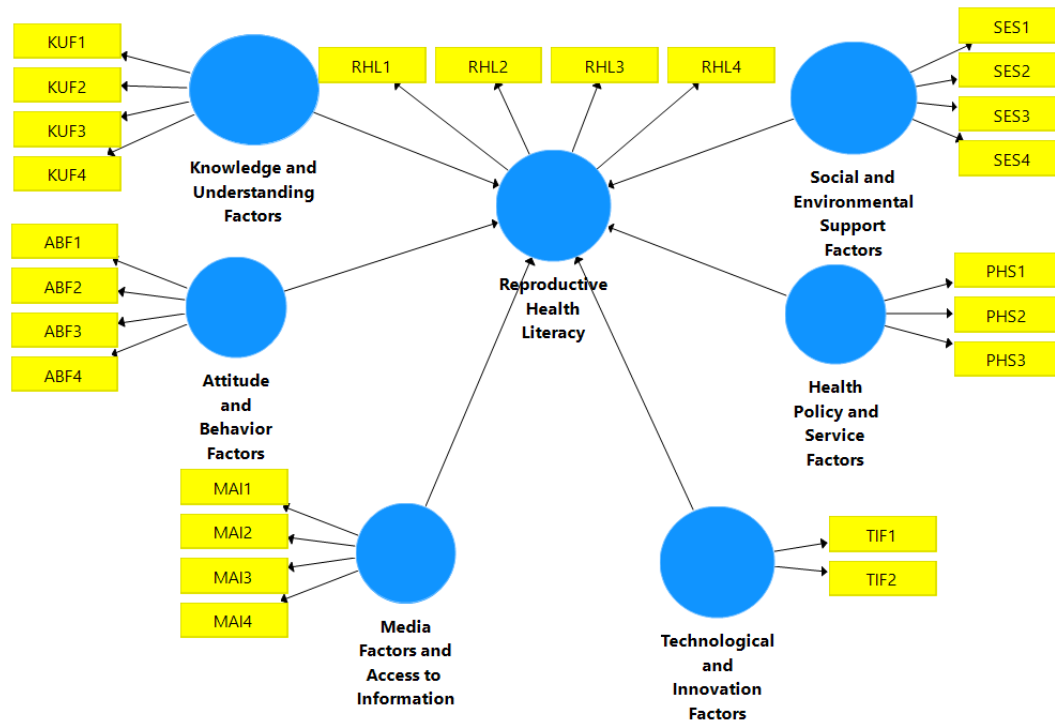


Figure 1. Model of Factors for Reproductive Health Literacy

Table 1. Statistical analysis of the influence of factors on Reproductive Health Literacy

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
Health Policy and Service Factors -> Reproductive Health Literacy	0,266	0,261	0,069	3,865	0,000
Social and Environmental Support Factors -> Reproductive Health Literacy	0,223	0,234	0,071	3,128	0,002
Media Factors and Access to Information -> Reproductive Health Literacy	0,026	0,035	0,079	0,330	0,742
Knowledge and Understanding Factors -> Reproductive Health Literacy	0,240	0,235	0,077	3,107	0,002
Attitude and Behavior Factors -> Reproductive Health Literacy	0,026	0,036	0,089	0,287	0,775
Technological and Innovation Factors -> Reproductive Health Literacy	0,163	0,159	0,080	2,033	0,043

Source: SEM-PLS Statistical Analysis, 2025

1. Knowledge and Understanding Factors

The Knowledge and Understanding Factor had a significant positive influence on adolescent reproductive health literacy, with an Original Sample (O) value of 0.240. This shows that the higher the level of knowledge and understanding of adolescents on the topic of reproductive health, the better their literacy. T Statistics (3.107) > t table 1.97 and P Values < 0.05 (0.002) confirm that this factor has a significant and positive effect. Good knowledge provides a solid foundation for adolescents to understand and apply information related to reproductive health.

As adolescents' knowledge and understanding increase, reproductive health literacy will also increase. Teens who understand that courtship behavior can be risky for mental health and lead to unwanted pregnancies will be more vigilant in their behavior. In addition, those who view healthy dating as a risk-free relationship show that this understanding helps build awareness to maintain reproductive health. The role of parents who provide advice also shapes adolescents' understanding of the importance of maintaining reproductive health, thereby increasing literacy. Good knowledge allows adolescents to take positive actions to maintain sexual and reproductive health. Conversely, low literacy will hinder adolescents in understanding disease prevention and self-care measures, which ultimately reduces their ability to make informed decisions regarding reproductive health.

Several other studies supported by Sholikhah et al. (2024) Programs such as the one in Mancar Village showed a 100% increase in understanding among participants after engaging in seminars and discussions on reproductive health. In addition, At Yapim Biru-Biru High School, a significant increase in knowledge was observed, with 90% of students scoring more than 80% on the post-test, compared to only 65% of the pre-test score (Fahdi et al., 2024). The creation of educational media tailored to adolescents has been highly rated by users, demonstrating its effectiveness in making reproductive health education accessible and engaging (Wulandari et al., 2023).

2. Attitude and Behavior Factors

Attitude and Behavior Factors showed a very weak relationship with adolescent reproductive health literacy, with an Original Sample (O) value of 0.026. T Low statistics (0.287) < 1.97 and high P Values (0.775) > 0.05 show that adolescents' attitudes and behaviors related to reproductive health have no significant effect on their literacy.

Attitude and Behavior Factors do not have a significant effect on adolescent reproductive health literacy because although positive attitudes towards sexual health and avoidance of risky behaviors can help adolescents maintain reproductive health, these factors are more related to behavioral tendencies, rather than a deeper understanding or knowledge of reproductive health topics. Conservative attitudes towards sexual behavior or the influence of social norms influence behavioral decisions more but do not directly increase adolescents' literacy or knowledge about reproductive health in depth. For example, while

adolescents may have positive attitudes toward sexual health, it doesn't necessarily mean they have a deep understanding or access to the right information about reproductive health. Although positive attitudes and behaviors, such as conservative attitudes toward risky sexual behaviors, can help adolescents avoid negative impacts, they do not directly improve reproductive health literacy. These attitudes more often arise as a result of social norms, parental supervision, or perceived behavior control (Perceived Behavior Control).

However, if we want to improve reproductive health literacy, a different approach is needed, such as building adolescent knowledge and skills. With increased literacy, adolescents not only avoid sexual risks, but also understand why and how to protect their reproductive health holistically. Therefore, focusing on education to increase awareness and skills will have a more significant impact than relying only on attitudes and behaviors.

Other research shows that adolescents often have knowledge about reproductive health but struggle to apply this knowledge effectively, leading to risky behaviors. Positive attitudes toward sexual health can lead to better health practices, but many adolescents still engage in risky behaviors despite having some knowledge (Muhlisa et al., 2024). A study found a significant correlation between knowledge and attitudes towards the prevention of sexually transmitted diseases (STDs), suggesting that knowledge is a precursor of positive attitudes and behaviors (Budiarti et al., 2024). Limited sexual and reproductive health literacy among adolescents in Ethiopia highlights that knowledge alone is not enough for effective health behavior change (Debella et al., 2024). As a solution, educational interventions should focus on improving knowledge and understanding, as mere positive attitudes may not lead to informed decision-making regarding reproductive health (Vongxay et al., 2019).

3. Media Factors and Access to Information

The Media and Access to Information factors showed a very weak influence on adolescent reproductive health literacy, with an Original Sample (O) value of 0.026. T Low statistics (0.330) <1.97 and high P values (0.742) >0.05 show that media and access to information do not contribute significantly to the improvement of reproductive health literacy among adolescents. The Media and Access to Information factors also do not have a significant effect because the current media has not fully met the needs of adolescents, both in terms of relevant content and easily accessible delivery formats. Although adolescents need digital platforms that maintain privacy and are relevant to trends, access to information available through digital media or television is often less in-depth and does not fully match the expectations or needs of adolescents in improving their reproductive health literacy. The lack of structured material and in accordance with the characteristics of adolescents causes the media not to contribute optimally to improving reproductive health literacy.

Currently, the available media is not in accordance with the needs of adolescents, so it is not effective enough in improving reproductive health

literacy. Access to existing information through digital media or television may contribute to adolescents' behavior, but it does not directly affect their literacy. To improve reproductive health literacy, media that is relevant, accessible, maintains privacy, and follows adolescent trends must be developed. This media must provide educational and fact-based information, so that adolescents can learn about reproductive health independently. If media like this is available, then access to information will have a direct impact on increasing reproductive health literacy.

Supporting research conducted by (Wiryaningsih et al., 2024) states that studies in adolescents post-counseling found that access to information media has no significant effect on reproductive health practices ($p = 0.877$). In contrast, research among college students showed a strong association between access to reproductive health information and knowledge, with a $p < 0.001$, suggesting that access to information is essential for understanding reproductive health (Fitria et al., 2023).

The solution to this lack of influence is the existence of other factors as mentioned in the research Wiryaningsih et al. (2024) stated that factors such as parental involvement, teacher influence, and peer support were found to significantly affect reproductive health practices and knowledge. Another study stated that in coastal areas, parental education and the role of schools are highlighted as important in shaping health knowledge adolescent reproduction, suggesting that access to information alone may not be enough (Permatasari et al., 2024).

4. Environmental Factors and Social Support

Social and Environmental Support factors also had a positive influence on adolescent reproductive health literacy, with an Original Sample (O) value of 0.223. This shows that the stronger the social and environmental support around adolescents, the better their reproductive health literacy will be. The statistical t -value (3.128) $>$ t -table 1.97, and the very small P values (0,002) $<$ 0,05 confirm that this factor has a significant effect. Support from family, friends, and the community has an important role in shaping adolescents' understanding of reproductive health.

A supportive environment, especially from parents, peers, schools, and health centers, greatly contributes to improving reproductive health literacy. When parents provide supervision and education, adolescents better understand the importance of maintaining reproductive health. In addition, schools and health centers as strategic information centers help adolescents get accurate and relevant information. Cooperation with peers, relatives, and teachers also builds an ecosystem that supports reproductive health literacy. Other environmental factors, such as school location and school attendance levels, provide direct access to information that helps adolescents improve their reproductive health literacy.

Another parallel study mentions Cultural and Socioeconomic Influences: In rural settings, cultural norms and socioeconomic status greatly influence reproductive health literacy. These factors determine access to health information

and services, impacting men's and women's understanding of reproductive health (Namasasu, 2016). Engaging communities, especially adolescents, in identifying and addressing reproductive health challenges is essential. This approach helps to tailor culturally and contextually appropriate solutions, improving reproductive health literacy (Sommer, M., & Mmari, 2015). While environmental factors and social support are critical in shaping reproductive health literacy, it is important to consider the broader structural and policy frameworks that govern these elements. Addressing these frameworks could lead to more comprehensive strategies to improve reproductive health outcomes globally.

5. Policy and Healthcare Factors

The Policy and Health Service Factor shows that the better the policies and health services available, the higher the level of adolescent reproductive health literacy. This can be seen from the Original Sample (O) value of 0.266, which shows a moderate positive relationship. With a Statistical T of 3.865 (which is greater than the table t value of 1.97) and a very small P Value (0.000), it can be concluded that this factor has a significant and positive influence on adolescent reproductive health literacy. Improvements in health care policies and quality can contribute directly to adolescents' understanding of the importance of reproductive health.

Well-designed health policies and services will support the improvement of adolescent reproductive health literacy. When policies actively involve adolescents in sexual health programs, they have the opportunity to learn and participate directly, so their literacy increases. Inclusive and accessible health services enable adolescents to obtain credible information and practical solutions related to reproductive health. Conversely, the lack of digital-based promotional media and adolescent-friendly services can hinder the improvement of reproductive health literacy. Therefore, there needs to be a policy design that is responsive to the needs of adolescents and more inclusive health services.

Other research states that the availability of reproductive health services and the attitudes of health care providers significantly affect women's willingness to seek care. Tailor health services to meet the cultural needs of diverse populations. Increase service uptake and health literacy (Irene, 2023). Research that addresses a supportive Policy Framework in which effective reproductive health policies that address social determinants can improve health service delivery and literacy. By involving local communities in health education initiatives to foster trust and improve health outcomes (HADI, 2016).

6. Technology and Innovation Factors

Technology and Innovation Factors showed a significant positive influence on adolescent reproductive health literacy, with an Original Sample (O) value of 0.163. This shows that the application of technology and innovation in information delivery can help improve adolescent reproductive health literacy. The Statistical T Values (2.033) > the t table 1.97 and P Values (0.043) < 0.05

indicate that this factor has a significant influence. Adequate technology and innovation in the delivery of health materials can accelerate the learning process and adolescent understanding of reproductive health.

Technology and innovation are key to improving reproductive health literacy, especially in the digital era. When an interactive and easily accessible digital app or platform is available, teens can easily get the information they need about reproductive health anytime and anywhere. Digital platforms such as social media are also effective in reaching adolescents and conveying health information at large. If this technology is used optimally, reproductive health literacy can increase significantly. On the contrary, without innovation in technology, access to relevant and targeted information will be hampered.

Other research that is in line with the mention of smartphone apps serve as an effective tool for disseminating reproductive health information, improving the relationship between adolescents, parents, and health professionals. They provide accurate, interactive, and easily accessible information, which is critical to addressing the unique challenges faced by adolescents in understanding reproductive health (Kusumawardani et al., 2018). Video media has been shown to significantly improve adolescents' knowledge of reproductive health, with research showing a significant increase in understanding after exposure to video-based health education. This method engages adolescents more effectively than traditional educational approaches, making it a valuable component of health literacy programs (Wahyudi & Raharjo, 2023). The integration of digital tools, such as mobile apps and virtual reality, improves health literacy by catering to the tech-savvy nature of adolescents. Interactive learning methodologies, including simulations, have been found to increase engagement and retention of health-related knowledge, further supporting the need for innovative educational strategies (Mancone et al., 2024).

Adolescent Reproductive Health Literacy Model

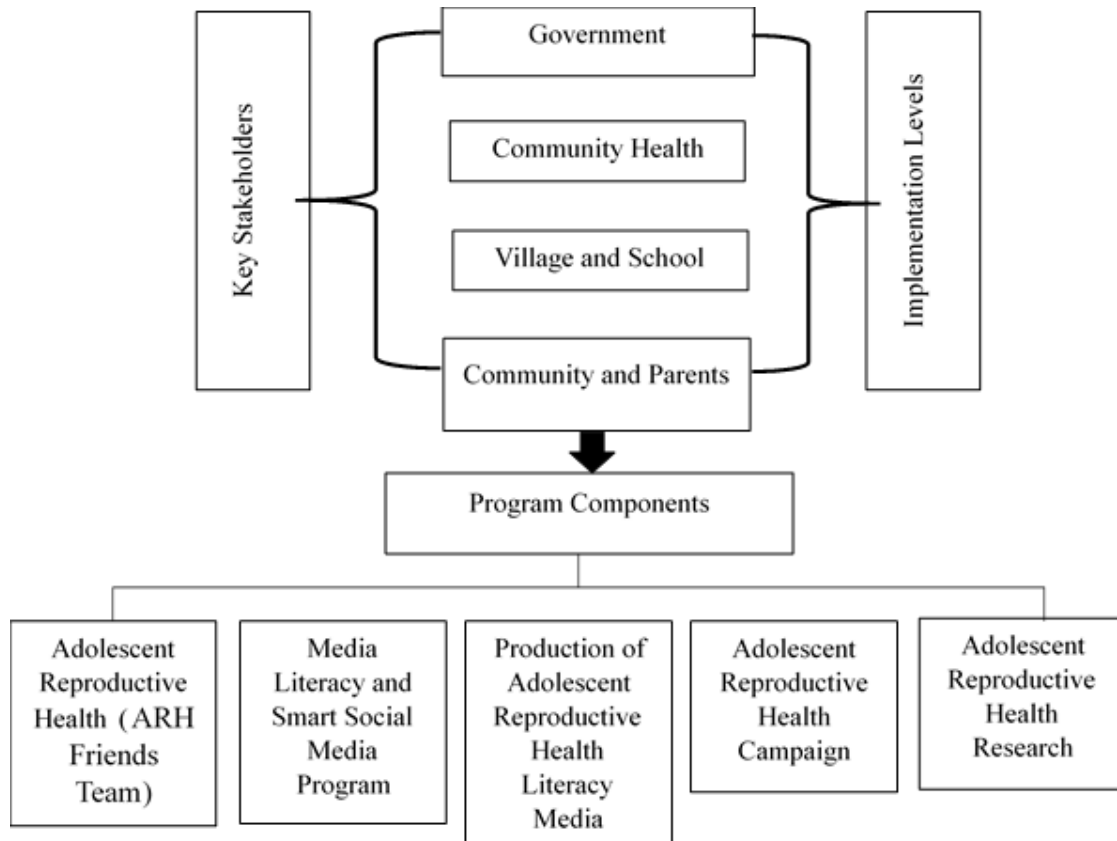


Figure 2. Adolescent Reproductive Health Literacy Model

The Adolescent Reproductive Health Literacy Model involves various key stakeholders, including the central government, regions, health centers, villages, schools, communities, and parents, who work together in designing and implementing literacy programs. The program components include the formation of the Adolescent Reproductive Health Friends Team (ARH Friends Team) in villages and schools, training in literacy media production, reproductive health campaigns, and local data-based research. Implementation is carried out at various levels, with the support of government funds, program management by health centers and schools, community involvement, and parent education to support the sustainability of the program.

In this context, this study emphasizes the importance of evaluating factors that affect reproductive health literacy through an integrated model-based approach. In line with this, the development of a reproductive health literacy questionnaire that has been tested on adolescents aged 15–24 years in China shows reliable and valid results, which are in line with the WHO health literacy framework (Ma et al., 2021). Research (Salam et al., 2016) discusses the improvement of adolescent reproductive health literacy and the importance of comprehensive interventions to address reproductive health problems among adolescents. Just like the previous discussion, this study also highlights the

importance of education and interventions aimed at increasing contraceptive knowledge and use, as well as preventing teenage pregnancy. Such interventions, such as sexual and reproductive health education, can improve reproductive health literacy and help adolescents make better decisions about their health. In addition, the community-based interventions and women's empowerment discussed in this quote have strong relevance to the reproductive health literacy model that integrates various factors such as social support, policies, and community-based programs to increase awareness about adolescent reproductive health. The following is an explanation of the implementation of the Adolescent Reproductive Health Literacy Model.

Implementation of the Adolescent Reproductive Health Literacy Model through Factors Affecting Reproductive Health Literacy

1. Adolescent Reproductive Health Friends Team (ARH)

Knowledge and Understanding Factors: Improving reproductive health literacy begins with increasing adolescent knowledge and understanding. The program will create a team of health center employees, community leaders, teachers, and selected adolescents, who will receive training to improve their knowledge of reproductive health. The correct and educational information received by these team members can be disseminated to other teenagers through meetings, workshops, and activities in the community and school.

Research highlights that health literacy can be a key factor in helping adolescents make better health decisions and reduce health-related risks, such as reproductive health problems (Fleary et al., 2018). It also emphasizes the importance of developing a more comprehensive health literacy measuring tool, which is in line with previous research that proposes an adolescent reproductive health literacy model to improve the understanding and application of health knowledge.

Strategy:

- a. At the village level, the ARH Friends Team consists of one health center employee, two community leaders, and five selected teenagers. They will receive training to improve accurate and relevant reproductive health knowledge.
- b. At the school level, UKS in Indonesia or Student Health Unit teachers and ten selected adolescents will be empowered to impart knowledge to peers and provide appropriate information on reproductive health issues.

2. Media Literacy and Social Media Smart Program

Media Factors and Access to Information: One way to improve reproductive health literacy is to provide access to relevant and easily accessible information for adolescents. This program uses social media as a tool to spread information. However, currently the available media may not be enough to meet the needs of teenagers, which requires the development of media based on educational youth trends.

Knowledge and skill factor: A good attitude can be formed through a deeper understanding, which is obtained from appropriate and relevant information.

Therefore, the production of media content that educates about reproductive health, such as informative videos and digital printed materials, can help adolescents to better understand why it is important to maintain their reproductive health, not just because of social norms or parental supervision.

Strategy:

- a. The media literacy program through workshops and training will teach teenagers and ARH Friends Team how to create and disseminate educational content through social media such as Instagram, Facebook, and WhatsApp. Motivational or educational videos, which explain ways to protect reproductive health and explain the consequences of risky sexual behavior, can help build a more comprehensive understanding. With a better understanding, teens can make more informed and informed decisions regarding their sexual and reproductive health.
- b. Through this training, adolescents are trained to be smart in social media by filtering valid and useful information to improve their literacy.

3. Production of Reproductive Health Literacy Media

Technology and Innovation Factors: Using technology and innovation in the presentation of health information is the key to reaching adolescents in this digital era. With the rapid development of technology, digital platforms such as social media and mobile applications can be effective tools to disseminate the right information to teenagers.

Strategy:

- a. This program will produce 1-minute audiovisual media packaged in the form of short videos that are interesting and easy to understand. This video will be shared through social media to make it easier for teenagers to access information at any time.
- b. In addition to videos, digital printed materials such as brochures and posters will also be distributed online and in communities, schools, and health centers to strengthen information distribution.
- c. Content distribution will be carried out regularly through social media platforms that are popular among teenagers.

4. Adolescent Reproductive Health Campaign

Environmental Factors and Social Support: A supportive environment is essential in improving reproductive health literacy. Health campaigns involving various elements such as families, schools, health centers, and communities will create an ecosystem that strengthens reproductive health messages.

The study highlights the inadequacy of reproductive health literacy in adolescents and identifies several factors that influence it, such as family roles, peer support, and age. Among these factors, the role of the family has the greatest impact on improving reproductive health literacy. These findings are in line with previous conclusions regarding the importance of a factor-based approach to improve adolescent reproductive health literacy (Wardiaty et al., 2023). In

addition, the study also emphasizes the importance of culturally sensitive interventions and attention to community-specific factors, which are in line with the needs of an age-appropriate curriculum and involve stakeholders such as teachers, parents, and community leaders, as suggested in the previous conclusions.

Strategy:

- a. Carry out health bazaars, program inaugurations, and activities involving schools and the community to raise awareness about the importance of maintaining reproductive health. This activity allows teens to share information directly with peers, teachers, and the community.
- b. Regular publication of campaign content on social media will keep adolescents engaged in discussions about reproductive health, as well as create an environment that supports education.

5. Adolescent Reproductive Health Research

Health Policy and Service Factors: Good policies and easily accessible health services are essential to support the improvement of reproductive health literacy. Health policies that actively involve adolescents will provide opportunities to learn and participate in sexual health programs. In another study, a conceptual model was proposed that unites the dimensions of health literacy as well as the influencing factors and pathways that link health literacy to health outcomes. This is in line with previous research efforts that have focused on developing adolescent reproductive health literacy models and how factors such as family roles, peer support, as well as health policies can influence adolescents' understanding of their reproductive health (Sørensen et al., 2012). By suggesting that this model can be used to design interventions that improve health literacy, this study reinforces the importance of a comprehensive, model-based approach to improving health literacy among adolescents, as well as the need to develop new measuring tools that are in line with current definitions and concepts of health literacy.

Strategy:

- a. Conduct local data-driven research to identify specific challenges and needs of adolescents in the field of reproductive health. This data will then be used to update health policies and programs that are more in line with local conditions.
- b. This research will help ensure that existing health policies and services can provide credible information and practical solutions for adolescents, especially in terms of accessibility of adolescent-friendly reproductive health services.

CONCLUSION

The implementation of the Adolescent Reproductive Health Literacy Model through a factor-based approach that affects reproductive health

literacy has the potential to increase adolescents' understanding of their sexual and reproductive health. By focusing on key components such as the Adolescent Reproductive Health Friends Team (ARH), the Media Literacy and Social Media Smart Program, the Production of Reproductive Health Literacy Media, the Adolescent Reproductive Health Campaign, and the Adolescent Reproductive Health Research, this program is expected to have a wide positive impact on adolescents at the village and school levels. Factors affecting reproductive health literacy, such as knowledge and understanding, attitudes and behaviours, media and access to information, environment and social support, health policies and services, and technology and innovation, are interrelated and play a role in creating an ecosystem that supports adolescent reproductive health literacy. Through a holistic and integrated approach, the program can address the challenges faced by adolescents in obtaining accurate and relevant information about their reproductive health.

Implication

The implications of the implementation of the adolescent reproductive health literacy model show the importance of the role of policy makers in designing policies that are responsive and providing health services that are easily accessible to adolescents, as well as ensuring that the policy actively involves adolescents. Schools need to strengthen the role of reproductive health education by involving trained teachers and adolescents as agents of accurate information, as well as providing smart social media training. Researchers must continue to conduct local data-based research to evaluate the effectiveness of programs and adjust policies that are more in line with the needs of adolescents, while health centers and communities must collaborate in educating the public, including parents, to support adolescent reproductive health through community-based activities. Overall, collaboration between all relevant parties and the use of innovative technology can accelerate the improvement of adolescent reproductive health literacy.

Limitations of research.

The limitation in this study is adolescents aged 15-19 years who are enrolled in high school in 2024.

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