

Pregnancy Health Education for Pregnant Adolescents: Evaluation of the Effectiveness of Counseling Programs in Schools

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Input : March 05, 2025

Accepted : April 05, 2025

Revised : March 18, 2025

Published : April 30, 2025

ABSTRACT

Adolescent pregnancy remains a global health concern, necessitating effective educational interventions to improve maternal and child health outcomes. This study aims to evaluate the effectiveness of pregnancy health counseling programs for adolescents within school settings through a Systematic Literature Review (SLR) guided by the PRISMA framework. A total of 239 articles were retrieved from databases such as Google Scholar, Scopus, SINTA, GARUDA, Crossref, and ICI. After a rigorous selection process based on predefined inclusion and exclusion criteria, only 25 articles were deemed eligible for in-depth analysis. The findings indicate that school-based pregnancy counseling programs significantly enhance adolescents' knowledge, attitudes, and behaviors regarding maternal health. Various counseling methods, including face-to-face sessions, group discussions, and digital interventions, contribute to program effectiveness. However, challenges such as limited resources, social stigma, and accessibility barriers hinder program implementation. This study underscores the importance of integrating pregnancy health education into school curricula, leveraging technology for broader reach, and fostering collaboration between schools, healthcare professionals, and families. Future research should explore long-term impacts and the role of cultural factors in shaping program outcomes.

Keywords: *Pregnancy health education, adolescent pregnancy, school-based counseling, maternal health*

INTRODUCTION

Pregnancy in adolescents is a global health problem that continues to be a serious concern for many countries, especially in regions with limited levels of education and access to health services. According to a World Health Organization (WHO) report, about 21 million girls aged 15-19 experience pregnancy each year, with 12 million of them continuing until delivery. This figure shows that pregnancy at an early age is still a big challenge, especially because adolescents often do not have the physical, mental, social, or economic readiness to become mothers. In addition, high teenage pregnancy rates also

contribute to increased maternal and infant mortality, malnutrition, and low levels of education and economic participation of women.

The impact of teenage pregnancy is not only limited to physical health aspects, but also has an effect on mental health and social well-being. Adolescents who experience early pregnancy tend to experience psychological distress due to social stigma, family rejection, and limited access to adequate health services. Stigma against teenage pregnancy often causes them to be reluctant to seek medical help or get the support needed to have a healthy pregnancy. In addition, pregnancy in adolescence is also at risk of causing school dropout, which has an impact on limiting future job opportunities and exacerbating the cycle of poverty. Therefore, effective educational interventions and health counseling are one of the main solutions in reducing early pregnancy rates and improving the health and well-being of adolescents.

One approach that has been widely applied in efforts to prevent teenage pregnancy and improve maternal health is a school-based pregnancy health counseling program. Schools are a strategic environment for providing health education because most adolescents spend time in educational institutions, so these programs have the potential to reach more at-risk individuals. The pregnancy health counseling Program aims to improve adolescents' understanding of the risks of early pregnancy, the importance of prenatal care, healthy lifestyle during pregnancy, and emotional and social readiness to face pregnancy and parenthood at a young age. The Program can also teach decision-making skills and increased self-confidence so that teens can avoid risky behaviors that can lead to an unplanned pregnancy.

Various studies show that reproductive health education provided in schools can have a positive impact on the knowledge, attitudes, and behaviors of adolescents related to pregnancy and maternal health. Studies conducted in different countries show that adolescents who receive school-based health education tend to have a better level of understanding of prenatal care, the risk of pregnancy complications, and the importance of social support during pregnancy. In addition, they are also more likely to seek appropriate health services and adopt healthier lifestyles compared to adolescents who do not get such education.

However, the effectiveness of school-based pregnancy health counseling programs still faces various challenges. Some of the main obstacles in the implementation of this program include limited resources and experts in schools, lack of support from families and communities, as well as cultural barriers and social stigma against teenage pregnancy. Many schools do not have trained health workers to provide comprehensive counseling, while on the other hand, there is still resistance from the public who consider reproductive health education a taboo topic to be discussed in the school environment. In addition, adolescents who come from families with low socio-economic conditions often face limited access to adequate health services, making them more vulnerable to poor health risks during pregnancy.

In this context, it is important to evaluate the effectiveness of school-based pregnancy health counseling programs using evidence-based approaches. Therefore, this study adopts the Systematic Literature Review (SLR) method with PRISMA framework guidance to review various studies that discuss the effectiveness of pregnancy health counseling programs for adolescents in the school environment. By analyzing the research that has been done before, this study aims to identify success factors and challenges in the implementation of the program, as well as provide recommendations to improve the effectiveness of this program in the future.

The results of this study are expected to provide deeper insights into how school-based health education can help reduce teen pregnancy rates and improve maternal and Child Health. In addition, this research can also serve as a basis for policy makers in designing more inclusive, technology-based, and sustainable education programs to improve the well-being of adolescents in the future. With increased awareness and access to quality health information, it is hoped that adolescents can be better prepared to face various challenges related to reproductive health and pregnancy at a young age.

This study aims to evaluate the effectiveness of pregnancy health counseling programs for adolescents through a systematic review of the literature. Using the Systematic Literature Review (SLR) method, which refers to the PRISMA framework, this study will review various studies that discuss the impact of counseling programs on the level of knowledge, attitudes, and behaviors of adolescents in maintaining health during pregnancy. The results of this study are expected to provide deeper insight into the successes and challenges in the implementation of this program, as well as provide recommendations for policy designers in improving the quality of pregnancy health education for adolescents.

METODOLOGI

Research Methods

This study used a systematic literature review or narrative review method to evaluate the effectiveness of pregnancy health counseling programs for adolescents in schools. Systematic literature review is conducted with a systematic and structured approach in identifying, evaluating, and synthesizing relevant research results. Meanwhile, narrative review is used to summarize the findings of various studies to gain a broader understanding of the topic under study. The main focus of this study was to review various literatures that discuss the impact of counseling programs on improving the knowledge, attitudes, and behaviors of pregnant adolescents in maintaining their pregnancy health.

Literature Selection Criteria

The selection of literature in this study was done by considering several criteria. First, the studies used should be published within the last 5-10 years to ensure the relevance and novelty of the data. Second, the literature sources selected were from recognized scientific journals, academic books, and reports from international health organizations such as WHO and UNICEF. Third, the studies

reviewed should focus on pregnancy health counseling programs implemented in schools or educational settings. Fourth, only studies with valid and relevant methodologies will be included in the analysis to ensure the accuracy of the review results.

Data Sources

The Data used in this study were obtained from various databases of credible scientific journals, such as PubMed, Google Scholar, ScienceDirect, and Scopus. The literature search process was carried out using keywords that were in accordance with the research topic, including Pregnancy health education for adolescents, School-based pregnancy counseling, Effectiveness of pregnancy education programs, and Maternal health education in schools. This combination of keywords is used to ensure that the identified study covers the main aspects of the study, including the effectiveness of the program, the counseling methods used, as well as the impact on maternal and fetal health.

Data Analysis Techniques

Data analysis in this study was conducted using the content analysis method to identify the main themes that appear in various studies. The Data from each study reviewed will be categorized based on the analyzed variables, such as the effectiveness of the counseling program, the methods used, the results obtained, and the challenges in implementation. After the grouping is done, this study will compare the results of various studies to identify patterns, differences, and gaps in previous studies. With this approach, the study can provide a comprehensive overview of the effectiveness of pregnancy health counseling programs for adolescents in schools as well as provide evidence-based recommendations for future program development.

Table 1. Inclusion criteria for literary research

Criteria	Description
Publication Year Range	Articles published within the last 5–10 years (e.g., 2014–2024) to ensure relevance and up-to-date findings.
Type of Publication	Peer-reviewed journal articles, academic books, and research reports from health organizations such as WHO, UNICEF, or national health ministries.
Language	Articles written in English or Indonesian to ensure accurate comprehension and analysis.
Research Topic	Studies examining the effectiveness of pregnancy health counseling programs for adolescents in school or educational settings.
Research Methodology	Studies employing valid quantitative, qualitative, or mixed-method approaches relevant to the research topic.
Accessibility	Full-text articles available to ensure comprehensive data extraction and analysis.

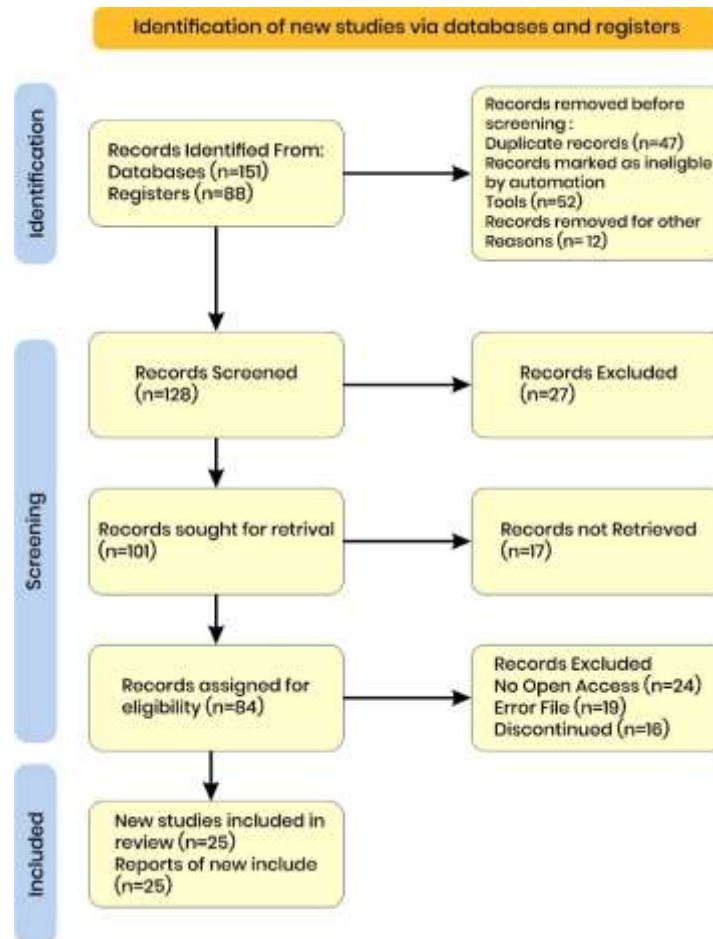


Fig 1. PRISMA Flow Diagram

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) Flow Diagram is a structured tool used to systematically document the process of identifying, screening, and selecting relevant studies in a Systematic Literature Review (SLR). In this study, the PRISMA flow diagram illustrates the step-by-step filtering process, starting from the initial search across multiple databases Google Scholar, Scopus, SINTA, GARUDA, Crossref, and ICI which yielded a total of 239 articles. After removing duplicates, the remaining articles were screened based on title and abstract relevance, resulting in the exclusion of studies that did not align with the research objectives.

Subsequently, the full-text assessment phase was conducted, applying predefined inclusion and exclusion criteria such as publication date, methodological rigor, and relevance to pregnancy health education for adolescents. Studies lacking empirical data, theoretical frameworks, or accessibility to full texts were excluded, leading to a final selection of 25 articles for in-depth analysis. The PRISMA flow diagram effectively ensures transparency and reproducibility in the literature review process, highlighting how studies were systematically refined to derive meaningful conclusions. This structured approach strengthens the validity of findings by ensuring that only high-quality and relevant research is included in the review.

RESULT AND DISCUSSION

Through a comprehensive literature review utilizing the Systematic Literature Review (SLR) method guided by the PRISMA framework, a total of 239 articles were retrieved from multiple sources such as Google Scholar, Scopus, SINTA, GARUDA, Crossref, and ICI. The initial selection process involved filtering articles based on relevance to the research topic, publication date within the last 5–10 years, and the credibility of the sources. Duplicates and non-English or non-Indonesian publications were excluded. After a rigorous screening process that assessed the methodological quality and alignment with the study's objectives, only 25 articles met the stringent inclusion criteria for in-depth examination. These selected studies provide valuable insights into the effectiveness, challenges, and best practices of pregnancy health education programs for adolescent students, forming the foundation for further analysis and discussion.

Effectiveness Of Pregnancy Health Counseling Program

Various studies show that pregnancy health counseling programs have a positive impact on increasing the knowledge of pregnant adolescents. After participating in the program, participants generally have a better understanding of the physiological changes during pregnancy, the importance of nutrition, as well as the risk of complications that can occur. In addition, this program also raises awareness of the importance of prenatal care and a healthy lifestyle for mothers and fetuses.

In addition to increased knowledge, counseling also contributes to a change in the attitude and behavior of pregnant adolescents. Studies show that program participants are more likely to follow medical recommendations, such as having regular pregnancy checks, maintaining a healthy diet, and avoiding risky habits such as smoking or the consumption of harmful substances. In the long term, this program plays a role in improving the health of the mother and fetus, reducing the risk of premature birth, and increasing the psychological readiness of adolescents to face childbirth and parenthood.

Methods used in counseling programs

Counseling methods in pregnancy health programs vary, ranging from an individual to a group approach. Individual counseling is more effective in providing personalized attention, especially for adolescents with special conditions or high emotional needs. Meanwhile, the group approach allowed participants to share experiences, build social support, and increase self-confidence in the face of pregnancy.

In addition, counseling delivery methods also vary between face-to-face and digital-based. Face-to-face counseling is more interactive and allows health workers to provide guidance directly, while digital-based counseling is more flexible, can reach more participants, and facilitate access to information at any time. The combination of these two methods can increase the effectiveness of the program. The role of health workers and teachers in this program is also very important. Health workers act as an accurate and reliable source of information,

while teachers can assist in supporting psychosocial aspects as well as ensuring adolescents get access to the health services they need.

Challenges in Program implementation

Although the pregnancy health counseling program has many benefits, its implementation still faces various challenges. One of the main constraints is the limited resources and expertise, especially in areas with limited access to health services. Many schools do not yet have enough professionals to optimally provide counseling.

In addition, cultural barriers and social stigma against pregnant adolescents are also great challenges. In some societies, teenage pregnancy is still considered taboo, so many participants are reluctant to participate in counseling programs for fear of exclusion. This factor can also prevent them from seeking the information and health services they need. In addition, socio-economic limitations are also an obstacle, especially for adolescents from underprivileged families who may have difficulty accessing prenatal health services or do not have digital devices to attend online-based counseling.

Recommendations for the Future Program

To increase the effectiveness of pregnancy health counseling programs for adolescents, one of the main recommendations is to integrate these programs into the school curriculum. By making reproductive health education a part of formal learning, adolescents can obtain comprehensive information early on, so they can be better prepared for pregnancy.

In addition, the use of technology also needs to be improved to expand the reach of counseling. The use of health apps, e-learning platforms, as well as social media can help disseminate information in a way that is more accessible to teens. Digital-based programs can also reduce stigma barriers, as participants can attend counseling sessions more privately without fear of social pressure. Finally, collaboration between schools, health workers, and families is essential to support the success of this program. Schools should work closely with medical personnel to provide quality counseling services, while families need to be involved in providing emotional and social support for pregnant teens. With a more holistic approach, these programs can be more effective in improving the health and well-being of the mother and her unborn baby.

CONCLUSION

Based on the results of a literature review, this study found that pregnancy health counseling programs for adolescents have a positive impact on increasing knowledge, changing attitudes, and better behavior in maintaining health during pregnancy. The counseling methods used, both individual and group, as well as face-to-face and digital approaches, have their respective advantages in reaching and supporting pregnant adolescents. However, the implementation of this program still faces various challenges, such as limited resources, social stigma, and access gaps for adolescents with low socio-economic conditions.

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