



The influence of peer educators in a reproductive health program for the prevention of child marriage at SMA Negeri 13 Makassar

Ummi Kalsum *, Andi Nurzakiah Amin

Departement of Health Administration, Faculty of Sports and Health Sciences, Universitas Negeri Makassar, Indonesia

*Email (corresponding author): ummikalsumkasim10@gmail.com

Abstract. This study aimed to determine the impact of a peer educator program focused on reproductive health for the prevention of child marriage at SMA Negeri 13 Makassar. A quasi-experimental pretest-posttest design with a control group was employed. The sample consisted of 70 respondents – divided into an intervention group (n=35) and a control group (n=35) – selected using purposive sampling. Data were collected via questionnaires covering information, knowledge, attitudes, behaviors, and child marriage prevention. Data analysis involved the Paired Sample t-test to compare pretest and posttest scores, and the Mann-Whitney U test to compare gain scores between the two groups. The results indicated changes in scores before and after the intervention according to the Paired Sample t-test. However, the Mann-Whitney U test revealed no significant difference in the improvement (gain score) between the intervention and control groups regarding information ($p=0.166$), knowledge ($p=0.075$), attitudes ($p=0.265$), behaviors ($p=0.552$), and child marriage prevention ($p=0.591$). Conclusion: While the peer educator program resulted in score changes before and after the intervention, there was no significant difference in the magnitude of improvement between the intervention and control groups.

Keywords: Peer Educator; Reproductive Health; Child Marriage Prevention; Adolescents

1. Introduction

Reproductive health is a crucial component of an individual's physical, mental, and social well-being regarding reproductive systems, functions, and processes. For adolescents, understanding reproductive health is vital, as adolescence is a developmental period characterized by biological, psychological, and social changes, as well as an increasing capacity for decision-making. Adequate knowledge of and access to reproductive health information are essential to enable adolescents to make responsible decisions and avoid various reproductive health risks (World Health Organization, 2008)

Adolescent reproductive health remains a public health issue in many countries. Adolescent pregnancy, sexually transmitted infections, limited access to reproductive health services, and child marriage are interconnected problems. The World Health Organization reports that in low- and middle-income countries, there are approximately 21 million pregnancies among adolescent girls aged 15–19 annually, with about 12 million resulting in births. These conditions indicate that improving reproductive health literacy and access to education for adolescents remains a critical need in efforts to prevent various health and social consequences (Muharrina, 2023)

In Indonesia, adolescent reproductive health issues remain a matter of concern. Low levels of reproductive health knowledge and literacy, limited access to information, suboptimal education, and the influence of social environments and peers can all affect adolescents' reproductive health behaviors (Wandi, 2025). Exposure to appropriate reproductive health information is also important because adequate knowledge and access to information can support adolescents in developing preventive health behaviors (Dewi, 2022). These conditions potentially increase the risk of unintended pregnancies and child marriage. Efforts to fulfill adolescents' rights to reproductive health information and services have been incorporated into Indonesia's reproductive health policies; consequently, strengthening educational strategies tailored to the characteristics of adolescents is crucial (Badan Kependudukan dan Keluarga Berencana Nasional, 2024).

This issue is also evident in South Sulawesi. Data from the Office of Women's Empowerment and Child Protection, obtained via the Religious High Court, recorded 756 applications for marriage dispensations between January and October 2024, with 556 of these being granted. During the same period—specifically up to July 2024—there were 2,989 recorded cases of pregnancy among individuals under the age of 18. In Makassar City, although the number of couples marrying under the age of 19 dropped from 8,804 in 2022 to 4,150 in 2024, issues regarding literacy and access to reproductive health services still require attention. Research involving adolescents at a high school in Makassar also indicates that access to reproductive health services remains limited, and reproductive health literacy levels generally fall within the moderate-to-low range (Wandi, 2025).

One approach that can be used to strengthen adolescent reproductive health education is the use of peer educators. This approach involves adolescents acting as educators for their peers, allowing information to be conveyed through language, media, and communication styles that better align with the characteristics of adolescents. Peer-to-peer interaction can also foster a more open discussion atmosphere and encourage active adolescent participation in the learning process. Previous research has shown that the formation of peer educators can improve adolescents' knowledge of reproductive health and support their involvement in reproductive health education (Fatimah, 2019). Furthermore, peer educator programs have demonstrated potential as an educational strategy for improving adolescents' knowledge and attitudes regarding early marriage (Defitri, et al., 2024; Ayuningtyas, 2025).

Previous research indicates that peer educator programs can enhance adolescent engagement in reproductive health discussions and create a positive learning environment. However, further development of structured programs is still needed to optimally improve adolescents' understanding of the technical and legal aspects of reproductive health (Ayuningtyas, 2025).

Although the peer educator approach holds potential for reproductive health education, its effectiveness in the context of preventing child marriage requires further study, particularly within the secondary school setting in Makassar City (Defitri et al., 2024). Preliminary observations at SMA Negeri 13 Makassar indicate that peer educator activities have not yet been implemented as part of the adolescent reproductive health program. This situation presents an opportunity to empower students to act as peer educators. Therefore, this study aims to analyze the impact of peer educators within the reproductive health program on the prevention of child marriage at SMA Negeri 13 Makassar (Ayuningtyas, 2025).

(Ayuningtyas, 2025) From a broader development perspective, this study also relates to the 2030 Agenda for Sustainable Development. It intersects with SDG 3 (Good Health and Well-Being), particularly Target 3.7 on universal access to sexual and reproductive health-care information and education; SDG 4 (Quality Education), particularly Target 4.7 on knowledge and skills needed to promote sustainable development; and SDG 5 (Gender Equality), particularly Target 5.3 on eliminating child, early, and forced marriage (United Nations, n.d.; World Health Organization, 2025).

This study aimed to determine the impact of peer educators within a reproductive health program on information exposure, knowledge, attitudes, behaviors, and efforts to prevent child marriage among students at SMA Negeri 13 Makassar. A quasi-experimental design with a pretest-posttest control group approach was employed. The results showed changes in scores before and after the intervention in the group receiving the peer educator program; however, the improvement (gain score) in the intervention group did not differ significantly from that of the control group regarding information exposure, knowledge, attitudes, behaviors, or child marriage prevention. These findings indicate that peer educators have potential as a reproductive health education approach, yet their effectiveness compared to conventional educational methods requires further strengthening in terms of program design and implementation.

2. Methods

This study employed a quantitative approach with a quasi-experimental design, specifically a pretest-posttest control group design. The study involved two groups: an intervention group that received reproductive health education delivered by peer educators, and a control group that received education via the lecture method. Both groups underwent a pretest prior to the intervention and a posttest following it to assess changes in the scores of the variables under study.

The study population consisted of all 308 Grade XI students at SMA Negeri 13 Makassar, distributed across nine classes. The research sample comprised 70 students, divided into an intervention group of 35 students and a control group of 35 students. Sampling was conducted using a class-cluster-based purposive sampling method, selecting classes with relatively homogeneous characteristics. Class XI A was designated as the intervention group, receiving education via peer educators, while Class XI B was designated as the control group, receiving education through the lecture method.

The intervention began with the selection and training of peer educators. Four students were selected from 24 members of the school's Red Cross Youth (Palang Merah Remaja/PMR) unit based on communication ability, active participation, responsibility, and willingness to serve. The four selected peer educators received 2–3 hours of training delivered by the researcher and research supervisor, covering adolescent reproductive health, developmental changes during adolescence, the risks and consequences of child marriage, prevention strategies, communication skills, and simulated discussion practice; they also reviewed the learning materials independently for two days before implementation. Both study groups subsequently received one 60-minute educational session using identical core content. In the intervention group, the trained peer educators delivered the session using PowerPoint/Canva slides displayed on a Smart TV, beginning with a 5–10-minute ice-breaking activity, followed by material presentation, a facilitated discussion and question-and-answer session, an interactive quiz with simple prizes, and a closing reinforcement of key

messages, with the researcher acting solely as facilitator. The control group received the same core content through a conventional lecture delivered by the researcher. A pretest questionnaire was administered immediately before each session, and a posttest questionnaire using the same instrument was administered immediately after its completion.

Research data was collected using a questionnaire that measured exposure to information, knowledge, attitudes, behavior, and prevention of child marriage. The information exposure variable relates to the receipt of reproductive health information, while knowledge measures students' understanding of reproductive health and the risks of child marriage. Attitudes relate to students' attitudes toward reproductive health and child marriage, while behavior relates to the application of reproductive health information in daily life. The child marriage prevention variable includes awareness of risks, commitment to continuing education, understanding of health impacts, and decision-making ability.

Data analysis was conducted in stages. Normality of the outcome distributions was first assessed using the Shapiro–Wilk test, which is appropriate for group sizes below 50; all outcome variables in both groups departed significantly from a normal distribution ($p \leq .001$), as reported in Table 1. Changes in scores between the pretest and posttest for each group were nonetheless analyzed using the Paired Samples t-test, consistent with the approved study protocol, to describe within-group score trajectories. Subsequently, individual gain scores were calculated as the difference between posttest and pretest scores for each respondent. Because the gain-score distributions did not meet the normality assumption, differences in gain scores between the intervention and control groups were analyzed using the non-parametric Mann–Whitney U test. A two-tailed p-value of 0.05 was used as the threshold for statistical significance, and all analyses were performed using SPSS.

2.4 Ethical Considerations

This study was conducted after obtaining administrative research permission through the relevant institutional and provincial authorization process, including SMA Negeri 13 Makassar and the South Sulawesi Provincial Investment and One-Stop Integrated Services Office (DPMPTSP). Because participants were secondary school students aged 14–17 years, institutional in loco parentis clearance was obtained through the school administration in addition to individual student consent procedures. Before data collection, students received an explanation of the study's objectives, procedures, potential benefits, and their right to decline or withdraw at any time without academic consequence. Students who agreed to participate signed a written informed consent/assent form. Questionnaire responses were anonymized using numerical codes and reported only in aggregate form, and access to study data was restricted to the research team. [Author note: verify and insert the formal ethics-committee approval number and the parental/guardian consent procedure here if these were formally documented; do not state either unless it can be verified against the original permission letters.]

3. Results and Discussion

3.1. Characteristics of Respondents

The study involved 70 Grade XI students at SMA Negeri 13 Makassar, consisting of 35 students in the intervention group and 35 students in the control group. The intervention group received reproductive health education through peer educators, while the control group received education using the lecture method.

The respondents were aged 14–17 years. Most respondents were 16 years old (42 students; 60.0%), followed by those aged 17 years (17 students; 24.3%), 15 years (9 students; 12.9%), and 14 years (2 students; 2.9%). Regarding sex, 40 respondents (57.1%) were female and 30 (42.9%) were male. Thus, the sample was predominantly 16-year-old students, with a relatively balanced distribution by sex.

3.2 Normality Testing

Normality of the outcome distributions was assessed using the Shapiro–Wilk test prior to hypothesis testing. As shown in Table 1, all outcome variables in both the intervention and control groups departed significantly from a normal distribution ($p \leq .001$). Because this assumption was violated, individual gain scores were subsequently compared between groups using the non-parametric Mann–Whitney U test (Table 3), whereas within-group pretest–posttest changes are reported using the paired-samples t test (Table 2), consistent with the approved study protocol.

Table 1. Shapiro–Wilk Normality Test Results by Study Group (N = 70)

Variable	Group	Shapiro–Wilk (W)	p-value	Distribution
Information exposure	Intervention	.757	< .001	1.20 ± 5.80 Non-normal
	Control	.441	< .001	Non-normal
Knowledge	Intervention	.734	< .001	Non-normal
	Control	.161	< .001	Non-normal
Attitudes	Intervention	.876	.001	Non-normal
	Control	.736	< .001	Non-normal
Behavior	Intervention	.681	< .001	Non-normal
	Control	.236	< .001	Non-normal
Child marriage prevention	Intervention	.857	< .001	Non-normal
	Control	.852	< .001	Non-normal

Source: Primary data processed using SPSS, 2026.

3.3 Changes in Scores Before and After the Intervention

The changes in the study variables before and after the intervention were analyzed using the Paired Samples t-test. Table 2 presents the mean pretest and posttest scores, gain scores, and p-values for the intervention and control groups.

Table 2. Mean Pretest, Posttest, Gain Score, and Paired Samples t-test Results

Variabel	Group	Pretest Mean ± SD	Posttest Mean ± SD	Gain Score ± SD	p-value
Information exposure	Intervention	21.06 ± 3.208	22.26 ± 4.415	1.20 ± 5.80	0.048
	Control	20.23 ± 2.713	21.43 ± 2.279	1.20 ± 0.36	0.230
Knowledge	Intervention	6.14 ± 1.332	6.60 ± 1.612	0.29 ± 1.86	0.169
	Control	6.03 ± 1.317	5.89 ± 1.231	-0.09 ± 0.51	0.196

Attitude	Intervention	21.06 ± 3.064	21.21 ± 4.319	0.09 ± 6.31	0.055
	Control	20.14 ± 2.390	20.89 ± 2.518	0.89 ± 2.27	0.865
Behavior	Intervention	21.91 ± 3.013	23.09 ± 3.995	1.17 ± 6.00	0.004
	Control	20.89 ± 2.518	22.51 ± 1.775	1.71 ± 2.74	0.256
Child marriage prevention	Intervention	31.80 ± 5.346	35.46 ± 2.974	3.66 ± 7.07	0.086
	Control	31.57 ± 4.125	33.31 ± 3.954	1.74 ± 5.83	0.004

Source: Primary data processed using SPSS, 2026.

As shown in Table 2, information exposure in the intervention group increased from 21.06 ± 3.208 at pretest to 22.26 ± 4.415 at posttest, with a gain score of 1.20 ± 5.80 . The Paired Samples t-test produced a p-value of 0.048, indicating a statistically significant difference between pretest and posttest scores. In the control group, the mean score also increased from 20.23 ± 2.713 to 21.43 ± 2.279 , but the difference was not statistically significant ($p=0.230$).

For knowledge, the intervention group showed an increase in the mean score from 6.14 ± 1.332 to 6.60 ± 1.612 . However, the difference was not statistically significant ($p=0.169$). The control group showed a slight decrease from 6.03 ± 1.317 to 5.89 ± 1.231 , which was also not statistically significant ($p=0.196$).

For attitudes, the intervention group showed a small increase from 21.06 ± 3.064 to 21.21 ± 4.319 , while the control group increased from 20.14 ± 2.390 to 20.89 ± 2.518 . Neither change was statistically significant, with p-values of 0.055 and 0.865, respectively.

Behavior scores in the intervention group increased from 21.91 ± 3.013 to 23.09 ± 3.995 . The Paired Samples t-test indicated a statistically significant difference ($p=0.004$). In contrast, the control group increased from 20.89 ± 2.518 to 22.51 ± 1.775 , but the change was not statistically significant ($p=0.256$).

Regarding child marriage prevention, the intervention group increased from 31.80 ± 5.346 at pretest to 35.46 ± 2.974 at posttest, with a gain score of 3.66 ± 7.07 . Nevertheless, the difference was not statistically significant ($p=0.086$). In the control group, the mean score increased from 31.57 ± 4.125 to 33.31 ± 3.954 , and this change was statistically significant ($p=0.004$).

Overall, the Paired Samples t-test showed that the intervention group experienced statistically significant changes in information exposure and behavior, whereas knowledge, attitudes, and child marriage prevention did not show statistically significant changes. In the control group, only child marriage prevention showed a statistically significant change. These findings are consistent with the overall conclusions reported in the thesis.

3.4 Comparison of Gain Scores Between Groups

To determine whether the magnitude of improvement differed between the peer educator and lecture groups, gain scores were compared using the Mann-Whitney U test. The results are presented in Table 3.

Table 3. Mann-Whitney U Test of Gain Scores Between the Intervention and Control Groups

Variable	Intervention Mean Rank	Control Mean Rank	p-value
Information exposure	37.91	33.09	0.166
Knowledge	38.89	32.11	0.075
Attitude	37.81	33.19	0.265
Behavior	36.94	34.06	0.552
Child marriage prevention	36.76	34.24	0.591

Source: Primary data processed using SPSS, 2026.

Table 3 shows that the intervention group had higher mean ranks than the control group for all study variables. However, none of the differences reached statistical significance. The p-values were 0.166 for information exposure, 0.075 for knowledge, 0.265 for attitudes, 0.552 for behavior, and 0.591 for child marriage prevention. Since all p-values were greater than 0.05, there was no statistically significant difference in gain scores between the peer educator and lecture groups.

3.5 Discussion

3.5.1 Information Exposure

The findings indicate that the peer educator intervention significantly increased students' exposure to reproductive health information. The mean score increased from 21.06 to 22.26, and the change was statistically significant ($p=0.048$). This finding suggests that communication through peers can facilitate the receipt and acceptance of reproductive health information among adolescents.

Peer educators were selected from the Red Cross Youth (PMR) unit and were trained before delivering the intervention. Four peer educators were selected from 24 PMR members based on communication skills, organizational participation, responsibility, and willingness to serve as peer educators. The training was intended to ensure that the information delivered was accurate, communicative, and appropriate for the characteristics of adolescent students.

The use of peers may create a more comfortable environment for discussing reproductive health issues, which are sometimes considered sensitive. Similar age, language, and experiences can facilitate communication and encourage students to participate more actively. The thesis also explains that lecture-based education can effectively deliver information to large groups, but tends to provide fewer opportunities for active interaction and discussion (Notoatmodjo, 2018).

Nevertheless, the Mann-Whitney U test showed that the improvement in information exposure was not significantly different between the two groups ($p=0.166$). Therefore, although the peer educator group demonstrated a significant within-group change, the study does not provide statistical evidence that peer education produced greater improvement than the lecture method.

3.5.2 Knowledge

The intervention group demonstrated an increase in the mean knowledge score from 6.14 to 6.60. However, the change was not statistically significant ($p=0.169$). The control group also showed no significant change ($p=0.196$).

The increase observed in the intervention group suggests that peer education has potential to improve reproductive health knowledge, but the magnitude of change may not have been sufficient to produce statistical significance. Previous research cited in the thesis indicates that peer education can improve adolescent knowledge and attitudes, particularly when educational activities are active and participatory. The present findings may differ because of differences in respondent characteristics, educational content, intervention duration, frequency of meetings, and intensity of peer educator assistance.

The absence of a significant difference between groups was also confirmed by the Mann-Whitney U test ($p=0.075$). Although the intervention group had a higher mean rank than the control group (38.89 vs. 32.11), the difference was not statistically significant.

3.5.3 Attitudes

The intervention group showed a slight increase in attitude scores from 21.06 to 21.21, while the control group increased from 20.14 to 20.89. Neither change was statistically significant.

These findings indicate that changes in attitudes toward reproductive health and child marriage prevention may require a longer process than the delivery of educational information alone. According to Azwar (2016), attitudes involve cognitive, affective, and conative components. Therefore, changing attitudes may require repeated exposure, reinforcement of beliefs, and opportunities for adolescents to relate the information to their own experiences and social environment.

The Mann-Whitney U test further showed no significant difference in attitude gain between the two groups ($p=0.265$). Although the intervention group had a higher mean rank than the control group (37.81 vs. 33.19), the difference was insufficient to demonstrate a statistically superior effect of the peer educator approach.

3.5.4 Behavior

Behavior was one of the variables that showed a statistically significant within-group change in the intervention group. The mean score increased from 21.91 to 23.09, with $p=0.004$. In comparison, the control group's score increased from 20.89 to 22.51, but the change was not statistically significant ($p=0.256$).

The significant change in the intervention group may indicate that peer interaction provides adolescents with an opportunity not only to receive information but also to discuss its application in daily life. Communication with peers may make messages concerning reproductive health and risk avoidance more relevant to students' social experiences.

However, the Mann-Whitney U test showed no significant difference in behavior gain between the two groups ($p=0.552$). The intervention group had a mean rank of 36.94 compared with 34.06 in the control group. Thus, the significant within-group change should not be interpreted as evidence that peer educators were statistically more effective than lectures.

3.5.5 Child Marriage Prevention

The mean score for child marriage prevention increased substantially in the intervention group, from 31.80 to 35.46. Nevertheless, the change did not reach statistical significance ($p=0.086$). Interestingly, the control group showed a statistically significant increase, from 31.57 to 33.31 ($p=0.004$).

The findings suggest that prevention of child marriage is a complex outcome that may not change immediately following reproductive health education. Decisions concerning marriage are influenced not only by knowledge and attitudes but also by family support, social norms, cultural expectations, school environment, economic conditions, peer influence, and access to information from other sources. The thesis similarly identifies these factors as possible influences on adolescents' prevention-related decisions.

The significant change observed in the control group demonstrates that conventional lecture-based education can also contribute to improving students' understanding and prevention efforts when material is delivered systematically and clearly. Therefore, the results do not support the assumption that peer educators alone are sufficient to produce immediate changes in child marriage prevention.

The Mann-Whitney U test confirmed that the gain score for child marriage prevention did not differ significantly between groups ($p=0.591$). The intervention group had a mean rank of 36.76 compared with 34.24 in the control group. Although the intervention group showed a higher mean rank, the difference was not statistically significant.

These findings are relevant to Sustainable Development Goal (SDG) 3 (Good Health and Well-Being, Target 3.7), SDG 4 (Quality Education, Target 4.7), and SDG 5 (Gender Equality, Target 5.3). Child marriage curtails girls' bodily autonomy and educational completion and increases obstetric risk; therefore, shifting marital intentions requires sustained, multicomponent strategies that extend beyond a single school-based educational session (Malhotra & Elnakib, 2021; Psaki et al., 2021).

3.5.6 Overall Comparison of Peer Educator and Lecture Methods

The principal finding of this study is that the peer educator program produced statistically significant within-group changes in information exposure and behavior, but it was not statistically superior to the lecture method when the gain scores of the two groups were directly compared.

All five Mann-Whitney U tests produced p -values greater than 0.05. The intervention group nevertheless had a higher mean rank for every variable, suggesting a consistent tendency toward greater improvement in the peer educator group, although the differences were not statistically significant.

Several factors may explain this result. First, both groups received reproductive health education, although through different delivery methods. Consequently, both groups had the opportunity to obtain additional information and understanding regarding reproductive health and child marriage prevention. Second, adolescents may have been exposed to information from sources outside the intervention, including family members, teachers, peers, social media, and other educational resources. Such external exposure may have reduced the difference between the two groups.

Third, the relatively short intervention duration, limited number of meetings, and sample size may have constrained the ability of the study to detect differences between the

two educational approaches. The thesis notes that the peer educator group consistently had higher mean ranks but that the differences did not reach statistical significance.

These findings imply that peer educators should not necessarily replace conventional reproductive health education. Instead, peer education may be integrated with teacher- or health-worker-led education, interactive media, and continuous reinforcement. A combination of approaches may provide adolescents with repeated opportunities to obtain information, discuss sensitive issues, strengthen attitudes, and apply reproductive health knowledge in everyday decision-making.

Overall, the findings indicate that peer educators have potential as a reproductive health education strategy among adolescents, particularly for increasing information exposure and supporting behavioral change. However, under the conditions of this study, the peer educator approach was not statistically proven to produce greater improvement than the lecture method in information exposure, knowledge, attitudes, behavior, or child marriage prevention. This interpretation is consistent with the overall conclusion of the thesis. method.

Conclusion

The reproductive health program utilizing peer educators demonstrated score changes across several variables within the intervention group, particularly regarding information exposure and behavior. However, a comparison of gain scores using the Mann-Whitney U test revealed no significant difference in improvement between the peer educator group and the lecture group regarding information exposure, knowledge, attitudes, behaviors, or the prevention of child marriage. Thus, under the conditions of this study, the peer educator approach has not been statistically proven to be more effective than the lecture method in improving reproductive health outcomes and preventing child marriage among students at SMA Negeri 13 Makassar.

Acknowledgments

The authors would like to express their gratitude to SMA Negeri 13 Makassar for granting permission and providing support during the implementation of this research. The authors also thank the students who participated as respondents and all parties who contributed to the completion of this study.

Conflicts of Interest

The authors declare that there are no conflicts of interest related to the publication of this article.

References

- Ayuningtyas, N. P. , & B. B. (2025). Evaluasi program peer educator bidang kesehatan reproduksi di SMP Kota Semarang menggunakan model discrepancy. *Jurnal Educatio FKIP UNMA*, 379–386.
- Defitri, A. , S. D. B. Y. , & L. R. (2024). Peer educator dan komunikator dapat meningkatkan pengetahuan dan sikap remaja tentang pernikahan dini di SMA Negeri 11 Kota Bengkulu. *Jurnal Kesehatan*, 124–129.
- Dewi, C. , Y. M. E. , & K. A. (2022). Hubungan pengetahuan dan keterpaparan informasi dengan tindakan pencegahan keputihan pada remaja putri di SMK Wahyu 1 Makassar. *Jurnal Kesehatan Panrita Husada*, 152–163.

- Fatimah, S. , H. W. , P. A. T. M. , & Julianda. (2019). Pengaruh pembentukan peer educator terhadap pengetahuan kespro pada remaja. *Prosiding Seminar Nasional: Pertemuan Ilmiah Tahunan Politeknik Kesehatan Karya Husada Yogyakarta*, 146–161.
- Muharrina, C. R. , Y. D. , S. S. , H. L. , & R. F. (2023). Kesehatan reproduksi (reproductive health). *Jurnal Pengabdian Masyarakat Kebidanan*, 26–29.
- Wandi. (2025). Angka perkawinan anak dan dewasa di Indonesia: Perubahan sosial dan kesadaran kolektif. *Portal Informasi Indonesia*.
- World Health Organization. (2008). *National-level monitoring of the achievement of universal access to reproductive health: Conceptual and practical considerations and related indicators*.
- Chandra-Mouli, V., Lane, C., & Wong, S. (2015). What does not work in adolescent sexual and reproductive health: A review of evidence on interventions commonly accepted as best practices. *Global Health: Science and Practice*, 3(3), 333–340. <https://doi.org/10.9745/GHSP-D-15-00126>
- Dodd, S., Widnall, E., Russell, A. E., Curtin, E. L., Simmonds, R., Limmer, M., & Campbell, R. (2022). School-based peer education interventions to improve health: A global systematic review of effectiveness. *BMC Public Health*, 22, Article 2247. <https://doi.org/10.1186/s12889-022-14688-3>
- Kalamar, A. M., Lee-Rife, S., & Hindin, M. J. (2016). Interventions to prevent child marriage among young people in low- and middle-income countries: A systematic review of the published and unpublished literature. *Journal of Adolescent Health*, 59(3S), S16–S21. <https://doi.org/10.1016/j.jadohealth.2016.06.015>
- Kim, C. R., & Free, C. (2008). Recent evaluations of the peer-led approach in adolescent sexual health education: A systematic review. *Social Science & Medicine*, 66(8), 1775–1786. <https://doi.org/10.1016/j.socscimed.2007.12.032>
- Ma, X., Yang, Y., Chow, K. M., & Zang, Y. (2022). Chinese adolescents' sexual and reproductive health education: A quasi-experimental study. *Public Health Nursing*, 39(1), 116–125. <https://doi.org/10.1111/phn.12914>
- Malhotra, A., & Elnakib, S. (2021). 20 years of the evidence base on what works to prevent child marriage: A systematic review. *Journal of Adolescent Health*, 68(5), 847–862. <https://doi.org/10.1016/j.jadohealth.2020.11.017>
- Psaki, S. R., Melnikas, A. J., Haque, E., Saul, G., Misunas, C., Patel, S. K., Ngo, T., & Amin, S. (2021). What are the drivers of child marriage? A conceptual framework to guide policies and programs. *Journal of Adolescent Health*, 69(6S), S13–S22. <https://doi.org/10.1016/j.jadohealth.2021.09.001>
- Svanemyr, J., Amin, A., Robles, O. J., & Greene, M. E. (2015). Creating an enabling environment for adolescent sexual and reproductive health: A framework and promising approaches. *Journal of Adolescent Health*, 56(1S), S7–S14. <https://doi.org/10.1016/j.jadohealth.2014.09.011>
- United Nations. (n.d.). Goal 4: Quality education. <https://sdgs.un.org/goals/goal4>
- United Nations. (n.d.). Goal 5: Gender equality. <https://sdgs.un.org/goals/goal5>

World Health Organization. (2025). SDG target 3.7: Sexual and reproductive health.
https://www.who.int/data/gho/data/themes/topics/sdg-target-3_7-sexual-and-reproductive-health

CC BY-SA 4.0 (Attribution-ShareAlike 4.0 International).

This license allows users to share and adapt an article, even commercially, as long as appropriate credit is given and the distribution of derivative works is under the same license as the original. That is, this license lets others copy, distribute, modify and reproduce the Article, provided the original source and Authors are credited under the same license as the original.

