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HEALTHY PREGNANCY EDUCATION TO IMPROVE ANTENATAL CARE VISIT COMPLIANCE

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Abstrak
Kepatuhan ibu hamil dalam melakukan kunjungan *antenatal care* (ANC) sesuai standar merupakan faktor penting dalam pencegahan komplikasi kehamilan, namun masih dipengaruhi oleh tingkat pengetahuan ibu hamil. Kegiatan ini bertujuan untuk menilai efektivitas edukasi kehamilan sehat dalam meningkatkan pengetahuan ibu hamil mengenai kehamilan sehat dan ANC. Kegiatan dilaksanakan menggunakan desain pra-eksperimental dengan pendekatan *one group pretest–posttest* terhadap 15 ibu hamil. Intervensi berupa edukasi kehamilan sehat diberikan melalui ceramah interaktif, diskusi, dan penggunaan media edukasi. Tingkat pengetahuan diukur sebelum dan sesudah intervensi menggunakan kuesioner terstruktur, kemudian dianalisis menggunakan uji *paired t-test*. Hasil menunjukkan peningkatan rerata skor pengetahuan dari 6,2 ± 1,1 menjadi 8,4 ± 0,9 dengan perbedaan yang bermakna secara statistik (p<0,005). Edukasi kehamilan sehat terbukti efektif dalam meningkatkan pengetahuan ibu hamil dan berpotensi mendukung kepatuhan kunjungan ANC sebagai upaya promotif dalam pelayanan kebidanan di tingkat komunitas.
Kata Kunci: *Antenatal Care, Kehamilan, Edukasi*

Abstract
Compliance of pregnant women in attending antenatal care (ANC) visits according to standards is an important factor in preventing pregnancy complications, but it is still influenced by the level of knowledge of pregnant women. This activity aims to assess the effectiveness of healthy pregnancy education in increasing pregnant women's knowledge about healthy pregnancy and ANC. The activity was carried out using a pre-experimental design with a one-group pretest–posttest approach on 15 pregnant women. The intervention, in the form of healthy pregnancy education, was delivered through interactive lectures, discussions, and the use of educational media. Knowledge levels were measured before and after the intervention using a structured questionnaire, then analyzed using a paired t-test. The results showed an increase in the average knowledge score from 6.2 ± 1.1 to 8.4 ± 0.9 with a statistically significant difference (p<0.005). Healthy pregnancy education proved to be effective in increasing the knowledge of pregnant women and has the potential to support compliance with ANC visits as a promotional effort in midwifery services at the community level
Keywords: *Antenatal Care, Pregnancy, Education*

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INTRODUCTION

Maternal and child health is one of the main pillars of global health development, especially in developing countries such as Indonesia, where maternal mortality rates (MMR) and infant mortality rates (IMR) remain serious challenges. In Indonesia, the MMR stands at 305 per 100,000 live births (RI, 2023), while the IMR is 24 per 1,000 live births (UNICEF, 2024). Pregnancy plays a role in reducing the MMR and IMR, one of which is through Antenatal Care (ANC). Antenatal Care (ANC) is a series of health examinations and education provided to pregnant women to monitor the health of the mother and fetus, prevent complications, and prepare for a safe delivery. Compliance with ANC is determined by a minimum of four visits as recommended by the World Health Organization in 2024 (Organization, 2024). National data shows that the level of compliance with ANC in Indonesia is still low, with only about 73% of pregnant women meeting this standard (RI, 2023). This figure could be even lower due to factors such as distance to health facilities, transportation costs, or lack of knowledge. As a result, the risk of pregnancy complications such as preeclampsia or premature birth increases, which can be fatal.

Interventions through health education about pregnancy have been shown to increase ANC compliance rates by 25% in rural areas among pregnant women who are more aware of health risks (Sari, 2021). Regular ANC visits have been shown to reduce anemia in pregnant women by up to 15% (Fitriani, 2022). Education programs can increase ANC coverage by 20-30% in developing countries and reduce the risk of perinatal mortality. In Vietnam, prenatal education increased ANC compliance from 60% to 85% (Nguyen, 2023). In Bangladesh, prenatal education increased ANC compliance from 65% to 81%(Rahman, 2024). A survey in Eastern Indonesia found that a combination of counseling and family support can increase ANC compliance from 75% to 92% (Nugroho & al., 2024). In East Java, pregnant women who did not receive prenatal education were 1.5 times more likely to be non-compliant with ANC than pregnant women who did receive prenatal education (Putri, 2023).

The 2024 WHO report emphasizes that comprehensive ANC, which includes pregnancy education, can prevent 50-70% of maternal deaths. Digital interventions such as educational apps can increase ANC compliance by up to 35% in mixed urban-rural areas (Rahman, 2024). Health education can be an appropriate and inexpensive solution to this problem. Through education on healthy pregnancy, pregnant women can learn about proper nutrition, danger signs such as bleeding or swelling, and the importance of regular check-ups. This is not only beneficial for pregnant women personally, but also supports global goals such as SDG 3 on good health. Our community service activities are designed to provide direct counseling to pregnant women and their families, with the hope of increasing ANC compliance and ultimately making pregnancies healthier.

METHOD

This activity was conducted using a pre-experimental design with a one-group pretest-posttest approach. This design was used to assess changes in the knowledge of pregnant women before and after being given an intervention in the form of healthy pregnancy counseling without involving a control group, with the expected outcome being an increase in the number of ANC visits. The subjects of the activity were pregnant women who attended the Pregnant Women's Class in the village of Ketemas Dungus Puri Mojokerto on November 15, 2025, and met the inclusion criteria, namely pregnant women who were willing to be respondents and participate in the entire series of counseling activities. Before the counseling was conducted, all participants were given a pretest in the form of a structured questionnaire to measure their level of knowledge about healthy pregnancy and compliance with ANC visits. The questionnaire was compiled based on healthy pregnancy material and ANC service standards, and had been adapted to the characteristics of the respondents.

The intervention was provided in the form of healthy pregnancy counseling using interactive lectures, discussions, and question and answer sessions (Tyas & Vivra, 2024). The counseling material covered the definition of healthy pregnancy, the objectives and benefits of ANC visits, the standard ANC visit schedule, and the impacts and risks of not attending ANC visits regularly. The counseling was conducted face-to-face with a participatory approach to encourage the active involvement of pregnant women during the activity. The counseling media used included leaflets and flipcharts to clarify the material presented and improve participants' understanding. Simple case studies and illustrations were used to reinforce the material so that pregnant women could apply the information obtained in their daily lives (Rahayuningsih & Kristinawati, 2023). After the entire series of counseling sessions was completed, participants were given a post-test using the same questionnaire as the pre-test to measure changes in knowledge and compliance with ANC visits. The difference between the pre-test and post-test results was used as an indicator of the effectiveness of healthy pregnancy counseling in increasing compliance with ANC visits among pregnant women.

RESULT AND DISCUSSION

A community service program on healthy pregnancy education to increase compliance with ANC visits was held on November 15, 2025, at the Ketemas Dungus Village Health Post in Puri District, Mojokerto Regency, with a total of 15 pregnant women participating. The activity ran smoothly for 60 minutes, with active participation from all participants.

Table 1. Characteristics of Respondent

Characteristics	Categories	n	(%)
Age (years)	<20	1	6,7
	20-35	11	73,3
	>35	3	20,0
Education	Elementary (Elementary-Junior	4	26,7
	High)	8	53,3
	Secondary (SMA/SMK)	3	20,0
	Higher (College)		
Jobs	Work	9	60,0
	Not working	6	40,0
Gravida	Primigravida	5	33,3
	Multigravity	10	66,7
Pregnancy	Trimester I	3	20,0
	Trimester II	7	46,7
	Trimester III	5	33,3

Source: Personal data

The characteristics of respondents in this study varied in terms of background and obstetric history. Seventy-three percent were aged 20–35 years, which is considered a healthy reproductive age (Clemons et al., 2022). The majority of pregnant women had a secondary education (high school/vocational school) at 53.3%, followed by primary education (elementary–junior high school) at 26.7% and higher education (university) at 20.0%. This variation in education levels has the potential to affect the respondents' ability to receive, understand, and apply the health information provided during the counseling activity. Based on employment status, most respondents were unemployed (60.0%), while 40.0% of respondents were employed. This condition can affect the availability of time for pregnant women to access health services, including participating in educational activities and attending regular antenatal care (ANC) visits (Tarigan Tua et al., 2025).

From an obstetric perspective, the majority of respondents were multigravida (66.7%), while the remaining 33.3% were primigravida. Previous pregnancy experience among multigravida mothers allows for better prior knowledge regarding pregnancy and ANC services, although this is not always followed by optimal compliance (Rahajeng et al., 2025). Additionally, based on gestational age, nearly half of the respondents were in the second trimester (46.7%), followed by the third trimester (33.3%) and the first trimester (20.0%). This distribution shows that most pregnant women are in the right phase of pregnancy to receive healthy pregnancy education as a promotive and preventive effort

to support compliance with ANC visits (Ngigi, 2024). Appropriate education and support from health workers are very important to increase pregnant women's understanding and compliance with ANC visits (Herlina et al., 2024).

Table 2. Statistical Analysis of Pre-Post Test Results

Variable	n	Pre-test (Mean ± SD)	Post-test (Mean ± SD)	Statistical Test	p-value
Knowledge Score (0-10)	15	6.2 ± 1.1	8.4 ± 0.9	Paired t-test	< 0.001

Source: Personal data

The results of the analysis show an increase in the knowledge of pregnant women after receiving education. The average knowledge score of pregnant women at the pre-test was 6.2 ± 1.1, while at the post-test it increased to 8.4 ± 0.9. These results indicate an increase in knowledge after the counseling session. The results of the paired t-test showed a p-value < 0.005, which means that there was a statistically significant difference between the knowledge scores of pregnant women before and after receiving education on healthy pregnancy. This shows that intervention through education has a positive effect on increasing pregnant women's knowledge about healthy pregnancy and the importance of antenatal care (ANC) visits. Although the increase was moderate, these results still show the effectiveness of educational intervention in improving pregnant women's understanding in the context of maternal health services. The importance of health education for pregnant women not only increases knowledge but also has the potential to reduce the risk of complications during pregnancy and childbirth. Effective education can contribute to improving the health of mothers and babies and reducing maternal and neonatal mortality rates. Appropriate and continuous health education is essential to ensure that pregnant women can access optimal health services and maintain their health and that of their unborn babies (Mei, 2024).

Figure 1. Process of Health Education

Increased knowledge is an important prerequisite for changing individual attitudes and behaviors in prevention and promotion efforts in the field of health. Better knowledge will help pregnant women recognize the danger signs of pregnancy, understand the recommended ANC visit schedule, and motivate them to play an active role in monitoring their pregnancy health (Nahak et al., 2024). Effective education can increase awareness of health during pregnancy and reduce the risk of complications that may occur (Hadina et al., 2023; Sari, 2021). The importance of health education for pregnant women is not only to increase their knowledge, but also to encourage them to make regular use of available health services, such as ANC (Hadina et al., 2023). Effective health education can contribute to reducing maternal and infant mortality rates by increasing awareness of the importance of regular antenatal care (Nurhasanah et al., 2024).

The results of this activity are in line with previous studies showing that educating pregnant women significantly increases their knowledge about antenatal care services and pregnancy health. For example, a study reported an increase in pregnant women's knowledge about pregnancy health after receiving education on healthy pregnancy, confirming the important role of educational interventions in supporting pregnant women's health awareness (Hanifah et al., 2025). Health education activities involving interactive counseling, discussions, and visual media can significantly improve pregnant women's understanding of ANC after intervention. The results of evaluations of health education activities for pregnant women in various regions show that knowledge scores increased significantly from pre-test to post-test, confirming the effectiveness of health education as a promotional strategy in the context of maternal health services.

Figure 2. Discussion and Q&A

Improving the knowledge of pregnant women through healthy pregnancy education has important implications for reducing maternal complications and mortality, as explained by a number of global literature reviews. Global review reports confirm that antenatal education plays a role in increasing mothers' awareness of maternal and neonatal health care, and can have an impact on reducing pregnancy-related complications (Rosnidawati, 2025). Although the results of this study show positive results, a limitation that needs to be noted is that the education was conducted in a single session without long-term follow-up, which may limit the ability of pregnant women to retain and implement the knowledge they have acquired. Therefore, future healthy pregnancy education programs should consider a sustainable approach with repeated sessions and ongoing support to reinforce learning and facilitate more permanent health behavior changes (Mei, 2024).

CONCLUSION

Healthy pregnancy education provided to pregnant women has been proven effective in increasing knowledge about healthy pregnancy and the importance of antenatal care (ANC) visits. There was a statistically significant increase in knowledge scores between before and after the educational intervention, indicating that healthy pregnancy counseling can significantly improve pregnant women's understanding, even though the increase was moderate. These results confirm that educational interventions are a relevant and applicable promotional strategy for increasing the knowledge of pregnant women as a predisposing factor in the formation of health behaviors. Healthy pregnancy education has the potential to support increased compliance with ANC visits if it is implemented continuously and integrated with maternal health services. Thus, healthy pregnancy education can be recommended as a promotional-preventive effort in midwifery services at the community level. However, reinforcement through repeated education and long-term evaluation is

needed to ensure the sustainability of the impact on ANC visit behavior and the overall health of pregnant women.

REFERENCES

Clemons, J. H., Payne, D., Garrett, N., McAra Couper, J., Farrya, A., Swift, E. M., & Stoll, K. (2022). Gaining insight from future mothers: A survey of attitudes and perspectives of childbirth. *Midwifery*. https://doi.org/10.1016/j.midw.2022.103499

Fitriani, D. (2022). Evaluasi program kelas ibu hamil di Kabupaten Bandung: Faktor yang mempengaruhi partisipasi. *Jurnal Obstetri Dan Ginekologi Indonesia*, *48*(2), 120–130.

Hadina, H., Kasmawati, K., & Radjulaini, Z. (2023). Peningkatan kapasitas ibu hamil menjalani kehamilan melalui edukasi tentang pentingnya pemeriksaan kehamilan. *Jurnal Masyarakat Mandiri*. https://doi.org/10.31764/jmm.v7i4.15351

Hanifah, L., Herawati, N., & Ismail, R. (2025). Edukasi kesehatan kehamilan sebagai upaya peningkatan pengetahuan dan keselamatan ibu hamil di Kota Depok. *Jurnal Masyarakat Mandiri*.

Herlina, H., Meldawati, M., & Hasanah, S. N. (2024). Inisiasi program janji temu kader dengan ibu hamil sebagai upaya peningkatan pemeriksaan sesuai jadwal di Puskesmas Sungai Turak. *Jurnal Pengabdian Ilmu Kesehatan*. https://doi.org/10.55606/jpikes.v4i1.3548

Mei, A. (2024). The impact of antenatal health education on healthy pregnancy and safe delivery. *Journal of Social Research*. https://doi.org/10.55324/josr.v3i3.1970

Nahak, M. P. M., Isu, Y. K., Nu'a, F. J., & dos Santos, J. M. (2024). Upaya peningkatan pengetahuan terkait pentingnya pemeriksaan kehamilan (antenatal care) pada ibu hamil di Puskesmas Haliwen. *Abdimas Galuh*. https://doi.org/10.25157/ag.v6i1.12339

Ngigi, C. K. (2024). Predictors of timing of first antenatal clinic: A systematic review. *International Journal of Research and Scientific Innovation*. https://doi.org/10.51244/ijrsi.2024.1104049

Nguyen, T. T. (2023). Effectiveness of prenatal education on antenatal care adherence in Vietnam: A randomized controlled trial. *BMC Pregnancy and Childbirth*, *23*(1), 45. https://doi.org/10.1186/s12884-023-05456-7

Nugroho, B., & al., et. (2024). Pengaruh penyuluhan dan dukungan sosial terhadap kepatuhan kunjungan ANC di Indonesia Timur. *Jurnal Pengabdian Masyarakat Kesehatan*, *8*(1), 12–25.

Nurhasanah, N., Yuniarty, Y., & Hariati, H. (2024). Gambaran pengetahuan ibu terhadap risiko tinggi kehamilan dengan menggunakan lembar balik di BPM Nurhasanah Pontianak. *Jurnal Pelayanan Dan Pengabdian Masyarakat Indonesia*. https://doi.org/10.55606/jppmi.v3i3.1495

Organization, W. H. (2024). *WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience*. World Health Organization. https://www.who.int/publications/i/item/9789241549912

Putri, A. S. (2023). Faktor risiko ketidakpatuhan antenatal care di Jawa Timur: Analisis regresi logistik. *Jurnal Kesehatan Reproduksi*, *14*(3), 200–210.

Rahajeng, M., Wijayanti, T. R. A., & Sulistiyah, S. (2025). *Factors affecting the frequency of K1 visits for pregnant women in maternal health programs*. https://doi.org/10.62951/icistech.v5i1.264

Rahayuningsih, F. B., & Kristinawati, B. (2023). The effectiveness of audiovisual media and leaflets in enhancing knowledge, attitudes, and practices of pregnancy services. *Jurnal Pendidikan Keperawatan Indonesia*. https://doi.org/10.17509/jpki.v9i2.68250

Rahman, M. M. (2024). Prenatal education and antenatal care compliance in Bangladesh: A secondary data analysis. *International Journal of Gynecology & Obstetrics*, *145*(2), 180–188. https://doi.org/10.1002/ijgo.15234

RI, K. K. (2023). *Profil Kesehatan Indonesia 2022*. Kementerian Kesehatan RI.

Rosnidawati, R. (2025). Pengaruh edukasi tentang antenatal care terhadap kejadian komplikasi kehamilan pada ibu selama kehamilan. *Jurnal Penelitian Perawat Profesional*.

Sari, D. P. (2021). Pengaruh pendidikan prenatal terhadap kepatuhan antenatal care di Kota Semarang. *Jurnal Kesehatan Masyarakat Indonesia*, *16*(1), 45–52.

Tarigan Tua, P. B., Sari, R. E., Hubaybah, H., Wardiah, R., & Ibnu, I. N. (2025). Factors influencing the utilization of antenatal care (K4) in pregnant women at the Pondok Meja Community Health Center, Muaro Jambi Regency in 2024. *JKMJ (Jurnal Kesmas Jambi)*. https://doi.org/10.22437/jkmj.v9i1.41499

Tyas, D. A., & Vivra, Y. (2024). Empowering pregnant women: A community-based health education intervention to promote healthy behaviors. *Archives of The Medicine and Case Reports*. https://doi.org/10.37275/amcr.v5i4.609

UNICEF. (2024). *State of the World's Children 2024: For Every Child, Vaccination*. UNICEF.