

## THE EFFECT OF EMPOWERMENT OF PREGNANT WOMEN IN THE COMMUNITY ON ANTENATAL CARE COMPLIANCE

Evita Widyawati<sup>1</sup>, Oktaviana Manda Putri<sup>2</sup>, Friska Oktaviana<sup>3</sup>

<sup>1,2,3</sup> Midwifery Study Program, Hutama Abdi Husada Health College, Tulungagung, Indonesia

Corresponding Author: [widyawatievita@gmail.com](mailto:widyawatievita@gmail.com)

### ABSTRACT

Participation of pregnant women in antenatal care can support maternal and fetal health. However, low compliance rates indicate a lack of adequate care in the community. This study aimed to assess the effect of an empowerment program for pregnant women on adherence to antenatal care in the Kedungwaru Community Health Center (Puskesmas) area, Kedungwaru District, Tulungagung Regency. The study design was a one-group pre-experimentary study, consisting of a pre-test and a post-test. A total of 40 pregnant women were selected as the sample using purposive sampling. A questionnaire was used to collect information, while the Wilcoxon test was used to analyze the data. Increased adherence to antenatal care and participation in the empowerment program each showed significant results with a p-value of 0.000 ( $p < 0.05$ ). The empowerment program for pregnant women increased adherence to antenatal care. This program should be expanded because it promotes better maternal health education and preventive health practices in the community.

Keywords: Antenatal Care; Community; Compliance; Empowerment; Pregnant Woman

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### INTRODUCTION

Pregnancy is a process that occurs as a result of the union of a sperm cell and an egg cell, which then continues with implantation in the uterine wall (Septeria et al., 2024). From the moment of conception, the fetus begins to grow and develop in the uterus until delivery (Maryana et al., 2024). However, not all pregnancies proceed smoothly. Sometimes, complications can arise suddenly and are difficult to predict from the outset (Mappaware et al., 2020). Many people still view pregnancy as something natural and not requiring special monitoring (Aisyah et al., 2023; Kamaruddin, 2021). This view often leads pregnant women to delay prenatal care, even only seeking medical attention when serious symptoms arise or labor approaches (Nurya & Husada, 2021). This phenomenon is evident in a number of cases where pregnant women only receive their first prenatal visit (K1) when they enter the third trimester (Rahmaniah, 2024). Based on the results of the 2024 National Health Survey (SKN),

antenatal care (ANC) service coverage in Indonesia showed a significant increase compared to the previous year.

Coverage of the first antenatal visit (K1) reached 95.8%, exceeding the 2024 RPJMN target of 95% and an increase from the 2023 figure of 94.2%. This indicates that more pregnant women are receiving initial contact with health workers during pregnancy. Meanwhile, coverage of at least four antenatal visits (K4) also improved. In 2024, K4 coverage reached 86.4%, exceeding the 2024 RPJMN target of 85% and increasing from 83.7% in 2023.

To date, ANC programs are recognized for their ability to detect early pregnancy risks, reduce maternal and infant mortality rates, and narrow ANC gaps (Zuchro et al., 2022). While maternal health education and community mobilization theoretically improve health behaviors, such as adherence to ANC guidelines (Sari et al., 2024), social relationships within the community play a key role in influencing pregnant women's health-seeking behavior (Pratiwi et al., 2021). However,

there is a gap in the research that empirically tests the impact of community-based empowerment frameworks on ANC adherence (Sururi et al., 2022). Most studies are descriptive or correlational, with very few exploring causality with targeted designs through simple interventions. There is a lack of community-based documentation aimed at examining maternal empowerment and actual behaviors that meet established ANC criteria in the context of Limited Access Areas in Indonesia.

This research focuses on the application of pre-experimental methods paired with a community-based approach to empower community members. The participation of community health volunteers and pregnant women is at the heart of this project, which, through simple, systematic methods, aims to facilitate tangible changes in ANC adherence behavior at the grassroots level. Against this backdrop, the aim of this study was to evaluate the impact of a community-based empowerment program for pregnant women on adherence to recommended antenatal care visit standards.

## METHOD

This study used a pre-experimental design with a one-group approach. This method was chosen to assess the effectiveness of the empowerment program on the level of antenatal care compliance of pregnant women participating in public health programs. In this design, research subjects were first given a trial, then given the empowerment program, and then given a one-group trial to assess the changes that occurred.

The study was conducted in the Kedungwaru Community Health Center (Puskesmas), Tulungagung Regency, East Java Province. The study was conducted from April to May 2025. Population: All pregnant women in their first to third trimesters residing in the Kedungwaru Community Health Center area. Samples of pregnant women who met the study's inclusion and exclusion criteria were as follows: Inclusion criteria: Pregnant women in their first to third trimesters who were willing to participate in the entire empowerment process and able to express themselves clearly; and exclusion criteria:

Pregnant women with severe complications requiring specialized care.

The sample was determined using purposive sampling based on pre-established criteria. The sample size was calculated using the Lemeshow formula for pre-experimental designs. At a significance level of 5% and 80% power, the minimum number of respondents was 40. For the research variables in this study, pregnant women were the independent variable, while antenatal care compliance was the dependent variable.

Data were collected using a checklist questionnaire validated by the Indonesian Ministry of Health's Antenatal Care Standards. The checklist covered the frequency and timeliness of visits, as well as ANC services received. Instrument validity was assessed using a content validity test using an expert judgment approach, while reliability was evaluated using a Cronbach's Alpha test with a benchmark of >0.7.

## RESULTS

Table 1. Distribution of Respondent Characteristics(n = 40)

Characteristics	Category	Frequency (n)	Percentage (%)
Age	< 20years	5	12.5%
	20–35 years	30	75.0%
	> 35 years	5	12.5%
Parity	Primigravida	18	45.0%
	Multigravida	22	55.0%
Education	Elementary School/Equivalent	10	25.0%
	Junior High School	12	30.0%
	High School	15	37.5%
	University	3	7.5%

Based on Table 1 above, the majority of respondents were aged between 20–35 years (75.0%), were multigravida (55.0%), and had a high school education (37.5%).

Table 2. Average Level of Antenatal Care Compliance Before and After Intervention (n = 40)

Time Measurement	Mean	Standard Deviation	Minimum	Maximum
Before Intervention	62.5	8.2	50	75
After Intervention	78.3	7.5	65	90

Based on Table 2 above, there is an increase in the average level of antenatal care compliance from 62.5 before the intervention to 78.3 after the intervention. The relatively small standard deviation indicates fairly homogeneous data.

Table 3. Paired t-test results for antenatal care compliance (n = 40)

Variable	Mean Difference	p-value
ANC Compliance (Pre-Post)	15.8	0.000 (p < 0.05)

Based on Table 3 above, the results of the paired t-test indicate a significant difference between the level of antenatal care compliance before and after the empowerment program intervention (p = 0.000), indicating that the program effectively increased pregnant women's compliance with ANC visits.

## DISCUSSION

### Respondent characteristics

As noted in the results, the majority of respondents were in the 20-35 age group (75%), multigravida (55%), and had completed high school (37.5%). The 20-35 age range is considered a healthy reproductive age group optimal for pregnancy. Wulandary et al. (2024) found that pregnant women in this age group are psychosocially and biologically ready for pregnancy compared to those who are too young or too old (Wulandary et al., 2024).

Parity status also influences adherence behavior. Arikalang et al. (2023) stated that multigravida tend to value the importance of prenatal care more due to their previous experience (Arikalang et al., 2023). This supports the statement by Purborini & Rumaropen (2023), who stated that there is a positive relationship between parity and health literacy levels in

pregnant women (Purborini & Rumaropen, 2023). On the other hand, education significantly influences health behaviors. According to Novita (2024), mothers are more likely to understand antenatal care visits, especially those with higher levels of education (Novita, 2024). In this study, those with higher levels of high school education This indicates that participants tend to be more receptive to the educational elements provided in the empowerment program.

### Antenatal Care Compliance Before and After the Empowerment Program

The average antenatal care compliance score increased from 62.5 to 78.3 after the intervention, indicating an improvement. This improvement indicates that the community-based empowerment program has successfully raised pregnant women's awareness of the need for regular prenatal checkups.

The results of this study support research by Lassi et al., which found that community-based educational interventions are effective in improving preventive behaviors among pregnant women (Lassi et al., 2016). Furthermore, Nasution (2021) research also demonstrated that programs that focus on active participant involvement tend to improve changes in constituents' health behaviors, specifically antenatal care adherence (Nasution, 2021).

Another study by Nurfitriyani & Puspitasari (2022), using participants from Vietnam, also found that teaching pregnant women in community groups increased the number of antenatal visits by more than 20% compared to the pre-intervention period (Nurfitriyani & Puspitasari, 2022). The high average scores obtained in this study demonstrate the effectiveness of the participatory approach in the empowerment process.

### Statistical Analysis of the Impact of the Empowerment Program on Antenatal Care Compliance in Pregnant Women

A paired t-test of antenatal care adherence before and after the program showed a p-value of 0.000 (p < 0.05), indicating a substantial difference. This confirms that well-structured and programmed empowerment initiatives

systematically produce beneficial changes in pregnant women's health behaviors.

Similar results were recorded in an Indonesian study by Mohseni et al., who documented that community-based empowerment had a significant impact on the utilization of antenatal care services (Mohseni et al., 2023). These findings also support Bitu et al. (2024) who reported that a group-based teaching approach, compared to one-on-one teaching, was more effective in achieving ANC adherence (Bitu et al., 2024).

Furthermore, in their meta-analysis they reported that community intervention programs aimed at the educational level increased adherence rates antenatal care by 1.5 times compared to no intervention (Nickel & von dem Knesebeck, 2020). These results add to the evidence that utilizing a community approach is crucial in addressing maternal healthcare challenges.

## CONCLUSION

The analysis showed a significant increase in telephone appointment scheduling and attendance compliance among pregnant women after the implementation of a community-based maternal empowerment program at the Kedungwaru Community Health Center in Tulungagung Regency.

The average compliance score increased after the intervention, proving the program's effectiveness in fostering healthy practices among pregnant women. Age, parity, and education level also contributed to the program's success, aligning with previous research that has highlighted the role of community-based education programs in improving maternal health.

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