

## Analysis of Midwife Performance, Family Support, and Health Facilities on Antenatal Care Visits

Sulistina Dewiyanti<sup>1</sup>, Yenny Puspitasari<sup>1</sup>, Prima Dewi Kusumawati<sup>1</sup><sup>1</sup> Postgraduate in Public Health Program, Universitas STRADA  
Indonesia, IndonesiaCorrespondence should be addressed to:  
Sulistina Dewiyanti  
sulistina286@gmail.com**Abstract:**

Antenatal care (ANC) utilization is a key indicator of maternal health outcomes; however, coverage remains suboptimal, with many pregnant women failing to meet recommended visit standards. This study aimed to examine the influence of midwives' performance, family support, and the availability of health facilities on compliance with ANC visits among pregnant women. A quantitative, observational, cross-sectional study was conducted involving 147 pregnant women selected by simple random sampling. Data were obtained from medical records and structured questionnaires and analyzed using univariate, bivariate (chi-square test), and multivariate (logistic regression) techniques. The results demonstrated that midwives' performance was significantly associated with ANC visit completeness ( $\chi^2 = 228.766$ ;  $p < 0.001$ ). Similarly, family support ( $\chi^2=208.597$ ;  $p<0.001$ ) and the availability of health facilities ( $\chi^2=164.881$ ;  $p<0.001$ ) were significantly associated with ANC compliance. Multivariate analysis confirmed that these factors were significant predictors of ANC utilization. Midwives' performance, family support, and the availability of health facilities all play critical roles in improving compliance with ANC visits. Strengthening healthcare provider performance, enhancing family involvement, and ensuring adequate health service infrastructure are essential strategies to increase ANC coverage and improve maternal health outcomes.

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### INTRODUCTION

Maternal health remains a critical indicator for evaluating the quality and effectiveness of healthcare systems worldwide (McCauley et al., 2022). One of the most essential preventive strategies to ensure positive maternal and neonatal outcomes is the utilization of antenatal care (ANC) services (Tesfay et al., 2023). ANC is a structured, comprehensive program delivered by healthcare professionals that aims to monitor pregnancy, provide health education, and manage potential complications (Zielinski et al., 2023). Effective ANC not only promotes a safe pregnancy and childbirth but also contributes to the overall well-being of both the mother and the fetus (Chewe & Mathibe-Neke, 2025).

The adequacy of ANC services is commonly assessed by the frequency and timing of visits, traditionally categorized as K1-K4 and, more recently, expanded to at least 6 standard visits (K6) (Habte et al., 2024). These visits are distributed across the pregnancy trimesters: early visits in the first trimester (before 13 weeks), followed by second-trimester visits (14–27 weeks), and multiple visits during the third trimester (28–40 weeks) (Abdo et al., 2023). Early and consistent attendance enables healthcare providers to promptly detect risk factors, monitor fetal development, and

implement timely interventions, thereby reducing the likelihood of adverse pregnancy outcomes (Hofmeyr et al., 2023).

ANC plays a pivotal role in preventing and managing complications that may arise during pregnancy (Yasin et al., 2025). Regular visits enable early identification of conditions such as maternal anemia, hypertension, and infections, while also reducing the risk of adverse fetal outcomes, including low birth weight, prematurity, neonatal sepsis, asphyxia, and early neonatal mortality (Kathuria, 2023). Non-compliance with recommended ANC schedules has been consistently associated with increased risks of maternal and neonatal morbidity and mortality, underscoring the importance of adherence to ANC guidelines (Linassari et al., 2025).

Despite its well-documented benefits, ANC utilization remains suboptimal in many settings. Several factors contribute to this issue, including healthcare provider performance, family support, and the availability of adequate health facilities (Alibhai et al., 2022). Midwives, as frontline providers of maternal health services, play a central role in delivering ANC (Dayyani et al., 2022). Their competence, communication skills, and ability to provide respectful and continuous care significantly influence pregnant women's satisfaction, trust, and willingness to attend ANC visits regularly (Hibusu et al., 2024).

In addition to provider-related factors, social and structural determinants also shape ANC utilization (Demeke et al., 2025). Family support, particularly from husbands and close relatives, can strongly influence a woman's decision to seek care by providing emotional encouragement, financial assistance, and logistical support (Morgan et al., 2022). Furthermore, the availability and accessibility of health facilities, including adequate infrastructure, medical equipment, and transportation, are crucial in facilitating ANC attendance (Bhutada et al., 2024). Inadequate facilities may discourage timely visits and contribute to delayed or incomplete care (Saaka & Sulley, 2023). Therefore, understanding the combined influence of midwife performance, family support, and health facility availability is essential to improving ANC coverage and maternal health outcomes (Abdissa et al., 2024).

## METHOD

### Research Design

This study employed a quantitative, observational-analytic design with a cross-sectional approach. The design was selected to examine the relationships between midwife performance, family support, health facility availability, and antenatal care (ANC) visit compliance among pregnant women at a single point in time.

### Participants

The study population consisted of 230 pregnant women registered at the Bandaran Community Health Center in Pamekasan Regency during November and December 2025. A sample of 147 participants was selected using a simple random sampling technique to ensure representativeness. The independent variables included midwife performance, family support, and health facility infrastructure, while the dependent variable was compliance with ANC visits.

### Data Collection

Data were collected using two main instruments: a structured questionnaire and a medical record extraction form. The questionnaire was used to assess perceptions of midwife performance, family support, and the adequacy of health facilities. Meanwhile, medical records were used to obtain objective data on the completeness of ANC visits relative to recommended standards.

## Data Analysis

Data analysis was conducted in three stages. Univariate analysis was performed to describe the characteristics of the study variables. A bivariate analysis using the chi-square test was conducted to examine the association between the independent variables and compliance with ANC visits. Furthermore, a multivariate logistic regression analysis was conducted to identify the most influential factors affecting ANC utilization, while controlling for potential confounders.

## Ethical Clearance

Ethical approval for this study was obtained from the Public Health Program, Universitas STRADA Indonesia. All participants were informed of the study's purpose, and the confidentiality of the collected data was strictly maintained.

## RESULT

Table 1. Cross-tabulation of Midwife Performance on Antenatal Care Visits

| Midwife Performance | Incomplete ANC Visit | Complete ANC Visit | Total |
|---------------------|----------------------|--------------------|-------|
| Low                 | 12                   | 6                  | 18    |
| Medium              | 22                   | 57                 | 79    |
| High                | 5                    | 45                 | 50    |
| Total               | 39                   | 108                | 147   |

Of the 147 respondents, 18 pregnant women were served by midwives with low midwife performance, 79 with moderate, and 50 with high. In the low midwife performance group, only 6 of the 18 pregnant women (33.3%) completed ANC visits. In the moderate midwife performance group, 57 of the 79 pregnant women (72.1%) completed visits. Meanwhile, in the high midwife performance group, 45 of the 50 pregnant women (90%) completed visits.

Table 2. Cross-tabulation of Family Support on Antenatal Care Visits

| Family Support | Incomplete ANC Visit | Complete ANC Visit | Total |
|----------------|----------------------|--------------------|-------|
| Low            | 14                   | 7                  | 21    |
| Medium         | 20                   | 64                 | 84    |
| High           | 5                    | 37                 | 42    |
| Total          | 39                   | 108                | 147   |

Cross-tabulation of general data (maternal age, education) with specific data (husband/family support) showed that mothers with strong family support attended antenatal care visits more frequently. Support in the form of schedule reminders, mentoring, and motivation was shown to increase adherence. Of the 147 respondents, 21 pregnant women had low family support, 84 had moderate, and 42 had high. Only 7 of the 21 pregnant women (33.3%) with low family support completed ANC visits. Meanwhile, 64 of the 84 pregnant women (76.2%) with moderate family support completed ANC visits. Furthermore, 37 of the 42 pregnant women (88.1%) with high family support completed ANC visits.

Table 3. Cross-tabulation of Facilities and Infrastructure on Antenatal Care Visits

| Facilities And Infrastructure | Incomplete ANC Visit | Complete ANC Visit | Total |
|-------------------------------|----------------------|--------------------|-------|
| Inadequate                    | 10                   | 6                  | 16    |
| Sufficient                    | 23                   | 65                 | 88    |
| Adequate infrastructure       | 6                    | 37                 | 43    |
| Total                         | 39                   | 108                | 147   |

Respondents who rated Community Health Center facilities as moderately adequate performed more complete ANC visits. Furthermore, Community Health Centers with adequate infrastructure (comfortable examination rooms, ultrasound equipment, and medication availability) had higher visit rates than those with limited facilities. Of the 147 respondents, 16 pregnant women attended Community Health Centers with inadequate infrastructure, 88 attended Community Health Centers with adequate infrastructure, and 43 attended Community Health Centers with adequate infrastructure. Only 6 of the 16 pregnant women (37.5%) completed complete ANC visits. Among those with adequate infrastructure, 65 of the 88 pregnant women (73.9%) completed complete ANC visits. Complete ANC visits were conducted in adequate infrastructure; 37 of 43 pregnant women (86.0%) completed visits.

Table 4. Chi-Square Test Results for the Relationship between Midwife Performance, Family Support, and Infrastructure and ANC Visits

| Independent Variable | Dependent Variable | Value $\chi^2$ (Pearson) | df | Sig. (p) | Information |
|----------------------|--------------------|--------------------------|----|----------|-------------|
| Midwife Performance  | ANC visit          | 228,766                  | 78 | 0.000    | Significant |
| Family Support       | ANC visit          | 208,597                  | 72 | 0.000    | Significant |
| Infrastructure       | ANC visit          | 164,881                  | 54 | 0.000    | Significant |

The chi-square analysis indicates that all three independent variables—midwife performance, family support, and infrastructure—have a statistically significant relationship with ANC visit compliance ( $p = 0.000$  for all). Among these, midwife performance shows the strongest association ( $\chi^2 = 228.766$ ), suggesting it is the most influential factor in determining whether pregnant women complete ANC visits. Family support ( $\chi^2 = 208.597$ ) also demonstrates a substantial effect, highlighting the importance of emotional and practical support in encouraging care-seeking behavior. Meanwhile, infrastructure ( $\chi^2 = 164.881$ ) remains a significant determinant, albeit slightly lower, indicating that adequate facilities and accessibility contribute meaningfully to ANC utilization. Overall, these findings suggest that both healthcare system factors and social support play critical roles in improving ANC attendance.

## DISCUSSION

Midwife performance demonstrated a strong, consistent association with compliance with antenatal care (ANC) visits. Among 147 respondents, only 33.3% of pregnant women receiving care from low-performing midwives completed the recommended ANC visits, compared to 72.1% in the moderate-performance group and 90% in the high-performance group, indicating a clear positive gradient. These findings suggest that the quality of midwifery care plays a pivotal role in shaping maternal adherence to ANC schedules. Competent midwives not only provide accurate clinical assessments but also deliver effective communication, emotional support, and respectful care, fostering trust and a sense of safety among pregnant women (Mwenebanda et al., 2024; Meinawati, 2024).

The influence of midwife performance can be understood within the framework of Lawrence Green's health behavior theory, in which healthcare providers serve as reinforcing factors that strengthen health-seeking behavior. High-performing midwives are more likely to build therapeutic relationships, ensure continuity of care, and encourage follow-up visits, thereby increasing compliance. This underscores the importance of continuous professional development, including both technical competencies and interpersonal skills, to enhance service quality and maternal satisfaction (Setyowati et al., 2024; Fangkingan-Faba-an et al., 2025).

Family support was also found to significantly influence ANC visit compliance, with a clear increase in adherence corresponding to higher levels of support. Only 33.3% of pregnant women with low family support completed ANC visits, compared to 76.2% and 88.1% among those with moderate and high support, respectively. This pattern highlights the critical role of emotional, informational, and instrumental assistance—such as reminders, accompaniment, and financial support—in facilitating regular ANC attendance. The involvement of husbands and close family members appears particularly important in motivating women and reducing barriers to accessing care (Morgan et al., 2022).

These findings are consistent with both Lawrence Green's theory and Bronfenbrenner's ecological framework, which emphasize the influence of the immediate social environment on individual behavior. Family members, especially spouses, serve as key sources of reinforcement that shape health-related decisions. Their active participation can enhance maternal confidence, promote positive attitudes toward healthcare utilization, and ultimately improve adherence to recommended ANC visits. This suggests the need for family-centered interventions, including the inclusion of partners in antenatal education and counseling programs (Barbano, 2026).

In addition to provider and social factors, the availability and quality of health facilities and infrastructure were shown to significantly affect ANC utilization. Compliance rates increased from 37.5% in settings with inadequate infrastructure to 73.9% and 86.0% in adequately and well-equipped facilities, respectively. This indicates that infrastructure functions as an enabling factor that facilitates access to care. Elements such as comfortable examination rooms, complete medical equipment, clean environments, and reliable service schedules contribute to positive patient experiences. In line with the SERVQUAL framework, these tangible aspects influence perceptions of service quality, build trust, and encourage consistent healthcare utilization. At the same time, inadequate facilities may create both physical and psychological barriers to care (Gao et al., 2025).

## CONCLUSION

Midwife performance, family support, and the availability of health facilities were identified as significant determinants of compliance with antenatal care (ANC) visits. Among these, midwife performance emerged as the most influential factor, with respectful care, effective communication, and appropriate clinical practices enhancing pregnant women's trust and motivation to complete recommended visits. Family support also played a critical role, as emotional, instrumental, and decision-making assistance from partners and relatives facilitated continued engagement with ANC services. In addition, adequate infrastructure—including well-equipped, clean, and comfortable healthcare environments—contributed to increased service utilization. Collectively, these findings underscore that ANC compliance is shaped by an interplay of healthcare provider quality, social support systems, and facility readiness, all of which must be strengthened to improve maternal health outcomes.

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