



## Evaluation of the Implementation of Antenatal Care Services at the Grobogan Regency Health Center

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Article Info	Abstract
<p>Article History:</p> <p>Recived 23 January 2025</p> <p>Accepted 11 April 2025</p> <p>Published 24 April 2025</p> <p>Keywords: Evaluation, Service, Antenatal care</p> <p>DOI: <a href="https://doi.org/10.15294/phpj.v9i1.19765">https://doi.org/10.15294/phpj.v9i1.19765</a></p>	<p>The Maternal Mortality Rate (MMR) in Grobogan Regency remains high, with Antenatal Care (ANC) coverage falling short of national targets. The Wirosari II Health Center reports particularly low K6 coverage at 37.92%. This study evaluates ANC service implementation at Purwodadi I and Wirosari II Health Centers to provide improvement recommendations. Using a descriptive qualitative approach with a phenomenological design, data were collected through in-depth interviews, observations, and documentation with midwives, maternal and child health workers, and pregnant women. Data validation was conducted via triangulation, and analysis followed the Miles and Huberman model.</p> <p>Findings reveal adequate human resources, but uneven health worker training. Infrastructure is sufficient, though equipment damage hinders Wirosari II. Service procedures align with standards, but SOP violations and limited nutrition personnel were noted in Purwodadi I. While K1 and K4 targets are achieved in Purwodadi I, Wirosari II struggles with recording and networking issues. Overall, ANC implementation in Purwodadi I is effective, while Wirosari II requires improvements in data recording, health worker training, and resource management. These findings provide actionable recommendations to enhance maternal health services in Grobogan Regency.</p>

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## INTRODUCTION

Maternal Mortality Rate (MMR) is an important indicator for assessing a country's public health status (WHO, 2021). According to the 2017 Indonesia Demographic and Health Survey (IDHS), the MMR in Indonesia was 305 per 100,000 live births, far from the national target of 183 per 100,000 by 2024 and the global target of 70 per 100,000 by 2030 (WHO, 2020). In 2023, the MMR decreased to 249 per 100,000 live births but still remained above the target. In Grobogan Regency, MMR has fluctuated, with a peak during the COVID-19 pandemic (Silesh et al., 2021). Data from 2023 indicate an MMR of 280 per 100,000 live births, while new Antenatal Care (ANC) coverage reached only around 75%, indicating that pregnant women's awareness of ANC visits still needs improvement.

Puskesmas Purwodadi I and Puskesmas Wirosari II were selected as the study sites due to their significant role in maternal and child health service delivery. Puskesmas Purwodadi I recorded the lowest MMR in the regency, decreasing from 320 per 100,000 in 2017 to 250 per 100,000 in 2023. Conversely, Puskesmas Wirosari II had the highest MMR, decreasing from 330 per 100,000 in 2017 to 290 per 100,000 in 2023. Selecting these two health centers is expected to provide insights into strategies for further reducing MMR in Grobogan Regency.

Antenatal Care (ANC) is key to reducing AKI by ensuring maternal and fetal health (Siregar S A et al., 2024). Optimal ANC, especially K6 visits, enables early detection of pregnancy risks, yet in 2023 Wirosari II Health Center recorded only 37.92% K6 coverage, well below the 60% national target (Grobogan Health Office, 2023).

Low ANC coverage increases risks of pregnancy complications, preterm birth, and maternal mortality (Ministry of Health of the Republic of Indonesia, 2020; Hidayati, 2023). Evaluating ANC implementation is essential to ensure effectiveness and meet maternal mortality reduction targets. This study assesses ANC services at Grobogan Regency Health Center to provide recommendations for improving maternal health. Effective ANC reduces maternal and infant deaths (Sari & Utami, 2023) by

addressing obstacles like inadequate facilities and human resources. The findings aim to enhance ANC quality and coverage, contributing to lower maternal mortality in Grobogan Regency (Hidayati, 2023).

## METHOD

This study used a descriptive qualitative approach with a phenomenological design to explore experiences of ANC service implementation at Puskesmas Purwodadi I and Puskesmas Wirosari II from September to December 2024. Data were collected through in-depth interviews, observations, and documentation. Main informants included six midwives and three maternal and child health program officers, while twelve pregnant women served as triangulation informants to capture user perspectives. Purposive sampling was used, with snowball sampling if needed. Data validity was ensured through method and source triangulation, and analysis followed the Miles and Huberman model, including data reduction, display, and conclusion drawing. This approach provides a comprehensive understanding of ANC implementation and pregnant women's experiences in Grobogan Regency.

## RESULTS AND DISCUSSIONS

### A. Input

The success of ANC services in Puskesmas depends on inputs human resources, funds, infrastructure, and procedures evaluated through workforce quality, fund allocation, facility completeness, and operational mechanisms.

#### 1. Human Resources

The implementation of ANC services depends on HR quality, including staff numbers, education, and training to ensure optimal service. Assessing these factors is essential to evaluate readiness in providing quality ANC aligned with community needs.

##### 1) Human Resources

ANC at Purwodadi and Wirosari Health Centers has adequate staff, including doctors, midwives, nurses, analysts, nutritionists, and pharmacists, though high patient loads can cause

delays. Adequate HR is crucial for successful ANC (Campbell et al., 2020; Grove J et al., 2020).

## 2) Health Workers

ANC at Grobogan Health Centers uses multidisciplinary teams doctors, midwives, dentists, lab staff, nutritionists, pharmacists, nurses, and analysts to ensure maternal health. Such teams improve early detection, decision-making, and care quality, aligning with WHO recommendations (Qi et al., 2022; Sharma et al., 2023; WHO, 2022).

## 3) Education

Health workers at Grobogan Regency Health Centers meet regulatory education standards, with most midwives holding at least a D3 in Midwifery, and some advancing to D4 or S1. Higher education enhances ANC service quality by improving clinical skills (Yeshitila et al., 2024), early detection, and counseling abilities (Iswanti et al., 2024), and aligns with global policies promoting workforce development in developing countries (O'Connell et al., 2024).

## 4) Human Resource Training

Health worker training in Grobogan Regency Health Centers is conducted periodically by the Health Office and Ministry of Health, covering emergencies, ultrasound, maternal-neonatal care, and high-risk detection. Efforts ensure all personnel participate in future sessions. Continuous training enhances healthcare workers' skills (Obeagu et al., 2024).

## 2. Source of Funds

### 1) Source of Funds

ANC funds at Grobogan Regency Health Centers come from BPJS, central and regional government support via APBD, and BOK. These funds support operations, ANC activities, infrastructure, and direct program costs. Diverse funding sources are crucial for sustainable maternal and child health services (Li et al., 2024).

### 2) Adequacy of Funds

The adequacy of ANC funds at Grobogan Regency Health Centers is

debated; some informants find them sufficient, while others consider them inadequate, requiring adjustments. Fund distribution and management challenges affect service quality (Huda et al., 2024). Insufficient funds can reduce service quality and ANC program success (Tukay et al., 2021).

### 3) Use and Management

Fund management for ANC services at Grobogan Regency Health Centers supports operations, equipment, consumables, HR needs, and reporting, with annual allocations based on proposals. Transparent fund management is crucial (Kruk et al., 2022). Needs-based planning enhances service efficiency (Ajisegiri et al., 2022).

### 4) Constraints

Funding for ANC services at Grobogan Regency Health Centers is limited and requires careful management. Community initiatives, such as self-checks, help mitigate these constraints. Community-based strategies can overcome funding challenges (Arroyave et al., 2021).

## 3. Facilities and Infrastructure

### 1) Availability of Facilities and Infrastructure

Facilities and infrastructure for ANC at Grobogan Regency Health Centers are generally adequate, though some centers face shortages of computers and tension equipment due to delayed budgeting. Improvements are made via additional funds, including BLUD. Adequate facilities are crucial for ANC success (Sahoo et al., 2021). Effective budget management and coordination address these shortcomings (Mourtada et al., 2021).

### 2) Completeness of Facilities and Infrastructure

Facilities and equipment for ANC at Purwodadi I and Wirosari II are complete and meet standards. Scales, blood pressure devices, ultrasounds, and laboratories support ANC sustainability. Complete facilities enhance pregnant women's

satisfaction and maternal-fetal monitoring (Swift et al., 2021).

Standard facilities are crucial for service success (Bankar et al., 2022).

### **3) Suggestions and Infrastructure Obstacles**

Facility constraints at Purwodadi I and Wirosari II Health Centers include equipment damage and limited resources like computers, though issues are resolved quickly. Limited space at Purwodadi I was noted but not critical. Maintaining facilities is crucial for ANC service quality (Mutowo et al., 2021; Aghaji et al., 2021).

## **4. Procedure**

### **1) Availability of Work Procedures**

Purwodadi I and Wirosari II Health Centers follow clear ANC procedures, including weight, height, nutrition checks, and GP/dental exams. Structured SOPs govern all maternal and child health services, accredited and compliant with standards. Standard procedures enhance service quality (McCauley et al., 2022).

### **2) Effectiveness and Suitability of Procedures**

ANC procedures at Purwodadi I and Wirosari II Health Centers are effective and follow standards, adjusted to community needs and regulations, including COVID-19 changes. Despite e-Puskesmas system issues, services run well and meet accreditation standards. ANC sustainability is maintained despite obstacles (Idris et al., 2023).

### **3) Special Policy**

ANC policies differ at Purwodadi I and Wirosari II Health Centers. Purwodadi I includes specialist recommendations, such as cardiac screening for at-risk pregnancies, while other centers follow standard programs. Pregnant women are required to attend at least six ANC visits, including specialist exams and ultrasounds. Structured ANC policies improve service quality, reduce maternal and infant mortality, and allow early complication detection (Idris et al., 2023; Townsend et al., 2021).

## **B. Process**

ANC program evaluation at Puskesmas involves planning, organizing, implementing, and supervising. Planning sets goals and allocates resources; organizing defines tasks, teams, and facilities; implementation ensures services follow standards; supervision monitors execution and identifies obstacles.

### **1. Planning**

Planning an Antenatal Care (ANC) program at Puskesmas involves medical staff, program managers, and policymakers to develop strategies and set coverage targets for pregnant women receiving standard ANC services. Constraints such as limited resources, coordination issues between facilities, and challenges in recording and reporting may hinder target achievement.

#### **1) Target Coverage**

ANC program coverage targets in health centers follow the Minimum Service Standards (SPM), aiming for 100% for K1 and 95% for K4. Evaluations are conducted periodically, with year-end targets adjusted to realistic achievements. At the Health Office level, three-year data are used to ensure alignment with service objectives. These findings align with Khotimah et al. (2023), highlighting the importance of continuous evaluation, and Suparwati et al. (2022), emphasizing the role of midwives in achieving ANC coverage targets.

#### **2) Planning constraints**

At the health center level, ANC program planning faced no major obstacles; however, Health Office informants noted issues with rejected plans, reflecting inconsistencies between regional and central policies. Studies by Khotimah et al. (2023) and Suparwati et al. (2022) emphasize that effective planning requires continuous evaluation and target adjustments to improve ANC service quality.

### **2. Organizing**

Organizing ANC services at health centers involves the head of the center and coordinating midwives in achieving program targets, mapping

problems, and developing management strategies. Clear task division is essential for program effectiveness, though internal and external obstacles may impact implementation.

#### **1) Organizing to Puskesmas Related to Achievements**

The Grobogan Health Office organizes ANC achievements via biannual online evaluations and monthly health center reports, providing feedback on SPM. Regular evaluation and feedback improve outcomes (Mboi et al., 2022), and technology enhances health care coordination (Feng et al., 2021).

#### **2) Organizing Problems of the Antenatal Care Program**

ANC issues in Grobogan Regency are managed through routine evaluations, case coordination, and minlok sessions, with coaching and training from the Health Office to enhance staff competence. This support improves maternal service capacity, contributing to maternal and child health goals (Negero et al., 2021; Munyuzangabo et al., 2021).

#### **3) Task Division Management**

At Grobogan health centers, ANC duties are assigned by expertise: doctors handle ultrasounds, lab consultations, and comorbidities; midwives conduct checkups, counseling, and records, with IT-skilled midwives managing data. Integrated ANC involves dentists and nutrition officers. Clear task division improves service quality (Abdissa et al., 2024).

#### **4) Organizational Constraints**

No major obstacles were reported in organizing ANC services at Grobogan Regency health centers, with all informants confirming smooth operations. This aligns with Bakara (2024), showing that effective organization enhances maternal health, while Sheffel et al. (2023) note that good organization improves staff coordination, information flow, and service quality.

### **3. Implementation**

The implementation of ANC programs at health centers involves the head of the center,

midwives, and other medical staff, including the 10 T procedures to ensure maternal and infant health. Often integrated with programs like immunizations, ANC implementation faces challenges in resources, communication, and external support, affecting its effectiveness and efficiency.

#### **1) Implementation Flow**

ANC services at Grobogan Regency health centers start with patient registration, followed by KIA poly examinations. Referrals to the laboratory, dental services, or nutrition counseling are made as needed. The process is managed via the ERM system, with manual backup if technical issues arise. Efficient service flow enhances ANC quality (Batani et al., 2022).

#### **2) Implementation**

ANC implementation at Grobogan Regency health centers is generally good, with high visit rates, achieved SPM targets, and services following SOPs. Challenges remain in HR quality and SOP compliance, but pregnant women report satisfaction. These findings align with Afrizal et al. (2020), highlighting the need to improve HR and SOP adherence.

#### **3) Implementation of the 10 T's**

The 10 T's at Grobogan Regency Health Center including physical checks, immunizations, lab tests, and nutrition counseling are implemented according to standards. Pregnant women are generally satisfied, though implementation varies individually. Integrated and individualized ANC services improve satisfaction (Khatri et al., 2023). An individual-based approach also enhances pregnancy outcomes (Eteng et al., 2022).

#### **4) Other Programs**

Integrated ANC services at Grobogan Regency health centers include pregnant women's classes, PMT provision, nutrition education, dental exams, high-risk screening, and lab tests, involving cross-sector collaboration. Participation varies, with some women attending only certain programs. Integrated services improve compliance

(Perez Escamilia et al., 2023), and a community-based approach enhances ANC coverage, especially in rural areas (WHO, 2020).

#### 5) Implementation Obstacles

No major obstacles were reported in ANC implementation at Purwodadi I and Wirosari II Health Centers. Minor issues, such as limited nutrition staff, doctor absences, and distant access, did not disrupt services. Scheduled services can help minimize limited access (Suleman Hassen et al., 2021). Efficient systems and active health worker involvement are important despite resource limitations (Khatri et al., 2023).

#### 4. Supervision

ANC program supervision at health centers is conducted semiannually by the Health Office, in person or online, to ensure compliance with standards. Effective supervision and strong support from health workers enhance ANC service quality (Safitri et al., 2024; Suparwati et al., 2022).

##### 1) Monitoring and Evaluation

ANC service monitoring and evaluation (M&E) at health centers is conducted regularly, with monthly reviews to track achievements and identify obstacles. At the Health Office, M&E uses prior notice and assessment tools to ensure standard compliance. Continuous evaluation and target adjustments are essential to improve ANC service quality (Khotimah et al., 2023; Suparwati et al., 2022).

##### 2) Performance of the Health Center

ANC service performance at Grobogan Regency health centers is generally good, with adequate human resources, infrastructure, and target achievements, including safe deliveries. Efforts continue to improve service quality through innovations like ultrasounds. Some programs remain suboptimal, highlighting the need for continuous innovation and regular evaluation to enhance service quality and program effectiveness (Webb et al., 2021; Batani et al., 2022).

#### 3) Problems that are Often Evaluated

Common issues in ANC program evaluation include unmet K4 visit targets and suboptimal recordkeeping, due to limited examination books and difficulties tracking visits across trimesters. Evaluating these aspects is crucial to meet service standards. Maesela et al. (2024) and Das et al. (2021) emphasize that optimizing recording and monitoring improves the quality of maternal health services.

#### 4) Supervision Constraints

Obstacles in ANC program supervision are mainly at the Health Office level, particularly due to limited time for monitoring and evaluation (M&E). While health center informants reported no major issues, the Health Office faces scheduling challenges. Huo et al. (2023) and Sujith et al. (2022) note that limited supervision time can reduce public health program effectiveness.

#### C. Output

ANC service evaluation at Puskesmas focuses on K1, K4, and K6 visit coverage, indicating pregnant women's service utilization and continuity of monitoring. This study compares achieved results with set targets to assess the program's effectiveness and efficiency in delivering optimal services.

##### 1. Purpose and Benefits

The main goal of the ANC program at Grobogan Regency Health Centers is to ensure healthy pregnancies and safe childbirth, producing healthy babies. Benefits include reducing maternal and infant mortality, early risk detection, and providing education on fetal development, nutrition, and pregnancy. Oyediran et al. (2022) and the Indonesian Ministry of Health stress that early pregnancy screening is crucial for improving maternal and child health.

##### 2. Success Indicators

ANC program success at Grobogan Regency Health Centers is indicated by visit coverage, high-risk identification and management, and reductions in maternal and infant mortality (AKI). Success is measured by achieving visit targets, adherence to inspection

standards, and meeting Minimum Service Standards (SPM). The program also emphasizes prevention and early detection of maternal health issues, though challenges in screening certain conditions remain (Akbar et al., 2021).

### 3. Coverage of K1 and K4 Visits

K1 and K4 visit coverage at Purwodadi I and Wirosari II Health Centers generally meets targets, though Wirosari II still uses cumulative data as it has not completed one year of implementation. A more accurate evaluation will be conducted after one year. Campbell et al. (2015) emphasize that continuous evaluation and long-term monitoring are essential for identifying factors affecting ANC program success and making necessary adjustments.

### 4. K6 Visit Coverage

K6 visit coverage meets targets at Purwodadi I Health Center, but Wirosari II falls short due to administrative, coordination, and recording issues, especially for preterm or aborted births. The Health Office confirms K6 achievements remain inadequate. Alibhai et al. (2022) emphasize proper record-keeping, and Damayanti et al. (2023) stress staff training and local coordination.

### 5. Comparison of Output with Target

The ANC program at Purwodadi I Health Center is effective and meets targets, while at Wirosari II, effectiveness is limited due to variable human resource quality and inadequate recordkeeping. Although implemented, improvements are needed in program execution. Hong et al. (2021) note that SOP non-compliance reduces effectiveness, highlighting the need for skilled staff and proper procedures for program success.

### 6. Program Effectiveness and Efficiency

The ANC program at Purwodadi I Health Center is considered effective and efficient, while at Wirosari II, program quality is hampered by variable human resources and inadequate recordkeeping. Although implemented, improvements are needed, particularly in execution quality. Studies by Yuliyanti et al. (2024) and Anggraeni et al. (2023) highlight that program effectiveness depends on human resource quality and consistent SOP implementation to achieve optimal health outcomes.

## CONCLUSION

The implementation of antenatal care at Purwodadi I and Wirosari II Health Centers differs across input, process, and output aspects. Both centers have adequate human resources, though not all staff have received training. Funding from the State and Regional Budgets is perceived as insufficient, and infrastructure is generally adequate, with minor issues such as equipment damage at Wirosari II and limited space at Purwodadi I. Program planning is data-based and integrated with services like nutrition counseling and pregnant women's classes. Key obstacles include SOP violations at Wirosari II and a lack of nutrition personnel at Purwodadi I, while supervision faces time coordination challenges. K1 and K4 coverage meets targets at Purwodadi I, but Wirosari II struggles with recording and networking. Overall, ANC at Purwodadi I meets standards, while Wirosari II requires improvement in recording and resource provision.

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