



Continuity of Care in the Management of Mild Anemia During Pregnancy and Its Maternal and Neonatal Outcomes: A Case Study

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Abstract. Mild anemia is one of the most common complications during pregnancy and remains a major public health concern because it increases the risk of adverse maternal and neonatal outcomes. A continuity of care approach provides comprehensive and integrated healthcare from pregnancy to postpartum and family planning, enabling early detection and appropriate management of pregnancy-related complications. This study aimed to describe the implementation of continuity of care in the management of mild anemia during pregnancy. A descriptive case study was conducted at PBM Rimenda Br. Tarigan, Medan Denai District, North Sumatra, Indonesia, in 2026. The subject was a 32-year-old pregnant woman (G3P2A0) at 28 weeks of gestation with mild anemia (hemoglobin level of 10 g/dL). Data were collected through interviews, observations, physical examinations, supporting examinations, and documentation using the SOAP approach. Continuity of care was provided throughout pregnancy, childbirth, postpartum, newborn care, and family planning. Interventions included nutritional counseling, iron supplementation education, routine antenatal monitoring, normal childbirth assistance, postpartum and neonatal care, breastfeeding support, and family planning counseling. Following the intervention, the maternal hemoglobin level increased to 11 g/dL before delivery. Both maternal and neonatal outcomes were favorable, with no complications observed throughout the continuum of care. These findings suggest that continuity of care may contribute to improved maternal health, successful management of mild anemia, and positive maternal and neonatal outcomes.

Keywords: Case Study; Continuity Of Care; Maternal Outcomes; Mild Anemia; Pregnancy.

1. INTRODUCTION

Maternal anemia remains one of the most common public health problems during pregnancy, particularly in developing countries. According to the World Health Organization (WHO, 2025), approximately 36.5% of pregnant women worldwide experience anemia, with the highest prevalence reported in South Asia. Maternal anemia is associated with an increased risk of adverse maternal and neonatal outcomes, including preterm birth, low birth weight, postpartum hemorrhage, and impaired fetal growth if not appropriately managed (WHO, 2025). In Indonesia, anemia during pregnancy continues to be a major health concern, with a prevalence of 48.9%, indicating that nearly half of pregnant women experience anemia, mainly due to iron deficiency and inadequate nutritional intake (Kemenkes RI, 2023).

To improve maternal and neonatal health outcomes, the continuity of care approach has been widely implemented. This approach provides comprehensive and continuous healthcare services throughout pregnancy, childbirth, the postpartum period, newborn care, and family planning. Continuous monitoring allows healthcare providers to identify pregnancy-related complications at an early stage, provide appropriate interventions, and improve maternal adherence to antenatal care recommendations (Rinayanti et al., 2024). In Indonesia, maternal healthcare services are also regulated through Peraturan Menteri Kesehatan Republik Indonesia

Nomor 21 Tahun 2021, which recommends at least six antenatal care visits during pregnancy to ensure early detection and management of maternal complications (Kemenkes, 2021).

Several previous studies have demonstrated that health education combined with iron supplementation effectively improves pregnant women's knowledge and adherence to iron tablet consumption, thereby reducing the risk of anemia during pregnancy (Sari et al., 2025; Sinaga et al., 2025). Furthermore, nutritional counseling and routine antenatal monitoring have been reported to improve maternal hemoglobin levels and pregnancy outcomes (Ginting et al., 2024). However, most previous studies have focused on educational interventions or antenatal management only. Limited evidence is available regarding the implementation of continuity of care across the entire maternal care continuum, including pregnancy, childbirth, postpartum care, newborn care, and family planning, particularly among women with mild anemia.

Therefore, this case study aimed to describe the implementation of continuity of care in the management of mild anemia during pregnancy and to evaluate maternal and neonatal outcomes following comprehensive care from pregnancy to family planning

2. LITERATURE REVIEW

Mild anemia during pregnancy is defined as a hemoglobin concentration of 10.0–10.9 g/dL and is primarily caused by iron deficiency due to increased maternal iron requirements during pregnancy (Astuti & Ertiana, 2023). Pregnant women with mild anemia commonly experience fatigue, dizziness, weakness, and decreased physical endurance. If left untreated, maternal anemia may increase the risk of preterm birth, low birth weight, postpartum hemorrhage, maternal morbidity, and impaired fetal development (WHO, 2025; Hestiani et al., 2024).

Continuity of care is a comprehensive healthcare approach that ensures women receive coordinated and continuous services throughout pregnancy, childbirth, the postpartum period, newborn care, and family planning. This approach emphasizes early detection of complications, health promotion, disease prevention, and individualized care to improve maternal and neonatal health outcomes (Rinayanti et al., 2024). Continuous monitoring also strengthens communication between healthcare providers and mothers, thereby improving adherence to antenatal care recommendations and healthy behaviors during pregnancy. Health education plays an important role in the management of maternal anemia. Previous studies have shown that education regarding anemia, balanced nutrition, and iron supplementation significantly improves pregnant women's knowledge and compliance with iron tablet consumption, contributing to better maternal hemoglobin levels and reduced pregnancy-related

complications (Sari et al., 2025; Sinaga et al., 2025). In addition, adequate nutritional intake and routine antenatal monitoring are essential components of comprehensive maternal care for preventing and managing anemia during pregnancy (Ginting et al., 2024).

Although previous studies have demonstrated the effectiveness of educational interventions and nutritional management in preventing maternal anemia, evidence regarding the implementation of continuity of care throughout the entire maternal care continuum remains limited. Therefore, this case study provides additional evidence on the application of continuity of care in managing mild anemia from pregnancy through childbirth, postpartum care, newborn care, and family planning.

3. RESEARCH METHOD

This study employed a descriptive case study design using a continuity of care approach. The study was conducted at PBM Rimenda Br. Tarigan, Medan Denai District, North Sumatra, Indonesia, in 2026. The case study followed one pregnant woman continuously from pregnancy through childbirth, postpartum care, newborn care, and family planning.

The study subject was a 32-year-old pregnant woman (G3P2A0) at 28 weeks of gestation who was diagnosed with mild anemia, indicated by a hemoglobin level of 10 g/dL. The participant was selected using purposive sampling because her clinical condition was relevant to the objective of describing the implementation of continuity of care in the management of mild anemia during pregnancy.

Data were collected through interviews, direct observation, physical examinations, supporting examinations (including hemoglobin assessment), and documentation review. Midwifery assessment and documentation were performed using the SOAP (Subjective, Objective, Assessment, and Plan) format to ensure systematic recording and evaluation throughout the continuum of care.

The continuity of care interventions included antenatal monitoring, nutritional counseling, education on iron supplementation, assistance during normal childbirth, postpartum care, newborn care, breastfeeding support, and family planning counseling. Maternal and neonatal conditions were evaluated at each stage of care to identify potential complications and assess the outcomes of the interventions.

Data were analyzed descriptively by comparing the clinical findings observed during each stage of care with current literature and evidence-based recommendations regarding the management of mild anemia during pregnancy and continuity of care.

4. RESULT AND DISCUSSION

Pregnancy Care

The participant was a 32-year-old pregnant woman (G3P2A0) at 28 weeks of gestation who attended antenatal care at PBM Rimenda Br. Tarigan with complaints of dizziness, fatigue, and excessive sleepiness. She also reported frequent nocturnal urination, which disturbed her sleep, and admitted that she did not take iron tablets regularly because she often forgot while taking care of her household and two children. Physical examination revealed a body weight of 55 kg, height of 155 cm, mid-upper arm circumference of 24 cm, blood pressure of 100/80 mmHg, pulse rate of 80 beats/minute, respiratory rate of 24 breaths/minute, body temperature of 36°C, and a hemoglobin level of 10 g/dL, indicating mild anemia. Table 1 summarizes the maternal clinical findings during pregnancy.

Table 1. Maternal Clinical Findings During Pregnancy

Variable	Findings
Age	32 years
Gravida/Parity	G3P2A0
Gestational age	28 weeks
Main complaints	Dizziness, fatigue, excessive sleepiness
Blood pressure	100/80 mmHg
Pulse	80 beats/minute
Respiratory rate	24 breaths/minute
Temperature	36°C
MUAC	24 cm
Hemoglobin	10 g/dL
Diagnosis	Mild anemia

Source: Primary data, 2026.

Based on these findings, continuity of care was initiated through comprehensive antenatal care. The interventions included education regarding the importance of regular iron tablet consumption, counseling on consuming iron-rich foods such as green leafy vegetables, meat, liver, beans, and fortified foods, recommendations for adequate rest, and routine antenatal follow-up to monitor maternal and fetal conditions. Family support was also encouraged to improve adherence to treatment.

Following continuous monitoring and counseling, the participant showed improved compliance with iron supplementation and dietary recommendations. Before delivery, her hemoglobin level increased from 10 g/dL to 11 g/dL, indicating improvement in her anemia status. These findings are consistent with Sari et al. (2025), who reported that educational interventions effectively improve pregnant women's knowledge and adherence to iron supplementation. Improved compliance contributes to better prevention and management of anemia during pregnancy. Similarly, Ginting et al. (2024) found that adequate nutritional counseling and regular antenatal care were associated with improved maternal hemoglobin

levels. Therefore, this case demonstrates that continuity of care not only facilitates early detection of maternal anemia but also promotes behavioral changes that improve maternal health outcomes.

Childbirth Care

The participant returned to the maternity clinic on 16 December 2025 complaining of regular uterine contractions radiating to the lower back. Physical examination revealed that she was in active labor with complete cervical dilatation (10 cm), clear amniotic fluid, fetal heart rate of 140 beats/minute, and no evidence of umbilical cord prolapse or fetal distress. Maternal vital signs remained within normal limits.

During labor, the participant received standard normal childbirth care, including continuous monitoring of maternal and fetal conditions, emotional support, guidance on effective pushing techniques, and assistance according to the Normal Childbirth Care (APN) guidelines. The labor progressed normally without complications such as prolonged labor, postpartum hemorrhage, fetal distress, or retained placenta. A healthy infant was delivered vaginally with a birth weight of 3,000 g and a body length of 50 cm.

These findings support the study by Rinayanti et al. (2024), which demonstrated that continuity of care during labor enables timely identification of complications and contributes to favorable maternal and neonatal outcomes. Continuous monitoring throughout labor also ensures that appropriate interventions can be implemented promptly whenever necessary.

Postpartum and Newborn Care

Following delivery, postpartum care was provided to monitor maternal recovery and neonatal adaptation. The mother's general condition remained stable, uterine contractions were adequate, uterine involution progressed normally, and lochia was within normal limits. No signs of postpartum hemorrhage or infection were observed. The participant also received counseling regarding exclusive breastfeeding, balanced nutrition, personal hygiene, danger signs during the postpartum period, and newborn care.

The newborn cried immediately after birth, had good muscle tone, pink skin color, and normal anthropometric measurements. Early initiation of breastfeeding (IMD) was successfully performed, followed by exclusive breastfeeding. Vitamin K was administered, and umbilical cord care was provided according to standard procedures.

During neonatal follow-up visits, the infant demonstrated normal growth and development, active breastfeeding behavior, normal elimination patterns, and no signs of hypothermia, jaundice, or umbilical cord infection.

Table 2. Maternal and Neonatal Outcomes

Variable	Outcome
Maternal hemoglobin	Increased from 10 g/dL to 11 g/dL
Mode of delivery	Normal vaginal delivery
Birth weight	3,000 g
Birth length	50 cm
Neonatal adaptation	Normal
Exclusive breastfeeding	Yes
Maternal complications	None
Neonatal complications	None

Source: Primary data, 2026.

These findings are consistent with Purnamasari (2022), who emphasized the importance of exclusive breastfeeding education in improving neonatal health. Furthermore, Sinaga et al. (2024) reported that comprehensive postpartum care, breastfeeding support, and nutritional counseling contribute to improved maternal recovery and successful breastfeeding practices.

Family Planning

At the final stage of continuity of care, the participant received counseling regarding postpartum family planning methods, including their effectiveness, benefits, indications, contraindications, and possible side effects. After discussing the available options, the participant selected the Lactational Amenorrhea Method (LAM) as her postpartum contraceptive method because she intended to practice exclusive breastfeeding. The participant demonstrated a good understanding of the selected contraceptive method and fulfilled the requirements for LAM use. No adverse effects or difficulties were reported during the initial follow-up period. These findings are consistent with Sinaga (2021), who reported that comprehensive contraceptive counseling improves women's knowledge and supports informed decision-making regarding postpartum family planning. Appropriate counseling also increases women's confidence in selecting a contraceptive method that suits their reproductive goals and health conditions. Overall, the implementation of continuity of care from pregnancy through family planning resulted in positive maternal and neonatal outcomes. Continuous monitoring, individualized education, and comprehensive healthcare interventions contributed to the successful management of mild anemia and prevented complications throughout the maternal care continuum.

5. CONCLUSION

This case study demonstrated that the implementation of a continuity of care approach contributed to the successful management of mild anemia throughout the maternal care continuum. Comprehensive care provided from pregnancy through childbirth, postpartum,

newborn care, and family planning facilitated early identification of health problems, timely interventions, and continuous monitoring of maternal and neonatal conditions. Following nutritional counseling, education on iron supplementation, and regular antenatal care, the participant's hemoglobin level increased from 10 g/dL to 11 g/dL before delivery. The pregnancy and childbirth progressed without complications, postpartum recovery was normal, the newborn showed appropriate adaptation and growth, and the mother successfully initiated exclusive breastfeeding and selected the Lactational Amenorrhea Method (LAM) for postpartum contraception. These findings indicate that continuity of care may improve maternal health status, support favorable neonatal outcomes, and reduce the risk of pregnancy-related complications through comprehensive and integrated maternity services.

Although this study provides valuable evidence regarding the application of continuity of care in the management of mild anemia during pregnancy, it was limited to a single case and therefore cannot be generalized to a broader population. Further studies involving larger sample sizes and different healthcare settings are recommended to evaluate the effectiveness of continuity of care in improving maternal and neonatal outcomes among pregnant women with anemia.

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