Journal of Social and Education Research
Volume 03 Nomor 02 June 2025
e-ISSN: 3021-8977, Hal 68-76
Available online at: https://journal.larpainstitute.com/index.php/jser

Midwifery Care and Family Social Support for Pregnant Women with Mild Anemia in the Third Trimester

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Abstract. Anemia during pregnancy is a significant health issue in developing countries, contributing to high maternal and fetal morbidity and mortality rates. This study focuses on severe anemia among pregnant women in their third trimester, examining prevalence, causes, and effective interventions. The findings indicate that limited knowledge about anemia and poor adherence to iron supplementation are key factors leading to anemia in pregnancy. Data from clinical visits showed that educational interventions aimed at increasing awareness, combined with iron tablet supplementation, significantly improved hemoglobin levels and maternal health. Hemoglobin levels in participants increased from severe anemia levels (<9 g/dL) to near-normal ranges after intervention. The study also highlights the role of family support and consistent antenatal care in managing anemia effectively. Nutritional education addressing iron-rich diets and the avoidance of substances inhibiting iron absorption proved essential. These results align with prior research emphasizing education and supplementation as critical strategies to reduce anemia-related pregnancy complications such as miscarriage, preterm birth, and low birth weight. The study recommends strengthening antenatal care programs by integrating comprehensive nutritional education and monitoring to ensure compliance with iron supplementation. Improving pregnant women's and their families' knowledge on anemia prevention is crucial to reducing maternal and fetal risks associated with anemia. This approach can ultimately contribute to better pregnancy outcomes and reduced maternal mortality rates.

Keywords: *Anemia, Pregnancy, Family Support, Third Trimester, Maternal Health*

1. INTRODUCTION

Anemia during pregnancy is one of the major health problems in developing countries and contributes significantly to the high morbidity rate among pregnant women. In Asia, the prevalence of anemia in pregnant women is estimated to reach 72.6% (Sasmita, 2022). This high prevalence has become a serious concern for the Indonesian government, as it is closely associated with increased maternal morbidity and mortality. Pregnant women are considered anemic if their hemoglobin (Hb) level is less than 11 g/dl in the first and third trimesters, and less than 10.5 g/dl in the second trimester (Hariati et al., 2020).

According to WHO data (2021), maternal mortality worldwide remains high, with over 300,000 deaths annually caused by bleeding, hypertensive disorders, and sepsis. WHO estimates that the prevalence of anemia in pregnancy ranges between 20% and 89%, with an Hb threshold of 11 g/dl. In Indonesia, the leading causes of maternal death in 2018–2019 were

hemorrhage, hypertension, and infection, with anemia identified as one of the contributing factors to hemorrhage (Kemenkes RI, 2020).

The Health Profile of West Nusa Tenggara (NTB) Province shows a rising trend in the number of pregnant women with anemia: 29 cases in 2016, 30 cases in 2017, and increasing to 34 cases in 2018 (Dinkes NTB, 2018). In Central Lombok Regency, the prevalence of anemia among pregnant women was recorded at 8.77%. There was a rise in cases from 2021 to 2022, increasing from 34 cases (4.19%) to 48 cases (5.92%).

Data from the PWS KIA report at Ubung Community Health Center in 2020 recorded 858 pregnant women. The coverage of first antenatal visits (K1) was 109.09%, and for complete antenatal care (K4) it was 94.41%. Risk and complication detection reached 103.86%, and maternal complication management was 132.75%. The percentage of pregnant women with anemia was 3.50%, and those with chronic energy deficiency (CED) was 13.29%.

Anemia during pregnancy negatively affects the immune system, increases the risk of infection, and lowers the quality of life. It may also lead to miscarriage, postpartum hemorrhage, preterm birth, low birth weight (<2500 grams), short birth length (<48 cm), and in severe cases, stillbirth (Kemenkes RI, 2020).

One of the key factors influencing anemia in pregnancy is adherence to iron (Fe) tablet supplementation. Pregnant women are advised to consume at least 90 Fe tablets during pregnancy. Consistent consumption of iron tablets plays a crucial role in increasing hemoglobin levels (Dewi & Mardiana, 2021). Additionally, an unbalanced diet, short birth intervals (<2 years), and infections are contributing factors, including chronic energy deficiency (CED) indicated by mid-upper arm circumference <23.5 cm (Kemenkes RI, 2020).

A study by Zuiatna (2021) found a significant correlation between maternal knowledge and the incidence of anemia (p-value = 0.040). A lack of knowledge regarding the importance of nutritional intake, particularly iron, increases the risk of anemia, which in turn impacts fetal growth and development.

In conclusion, anemia in pregnant women is primarily caused by non-compliance with iron tablet consumption and limited knowledge about the importance of adequate nutrition during pregnancy.

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2. METHODE

This study employs a qualitative descriptive approach, aiming to describe the form of midwifery care and family social support provided to pregnant women with mild anemia in the third trimester. This approach was chosen because it allows the researcher to explore the

subjective experiences of pregnant women and the role of the family in supporting the pregnancy. The study was conducted in Dusun Labulia, Labulia Village, Jonggat Subdistrict, Central Lombok Regency, from March to April 2024.

The subjects of this study were third-trimester pregnant women diagnosed with mild anemia, living with their families and receiving midwifery care from healthcare providers in the area. The primary informants were the pregnant women themselves, while triangulation informants included family members (husbands, parents), and the midwives providing care. Inclusion criteria included third-trimester pregnant women with hemoglobin levels between 10 and 10.9 g/dL, who were willing to participate and able to communicate effectively. Exclusion criteria involved pregnant women with other medical complications or communication disorders.

Data collection was conducted through in-depth interviews guided by semi-structured interview questions, participatory observation of midwifery practices and family support, and documentation studies from maternal and child health (MCH) books and hemoglobin lab results. The main instrument in this research was the researcher, supported by interview guides, observation sheets, and voice recording devices, with the informed consent of the participants. Data were analyzed using thematic analysis, beginning with transcribing the interviews, coding the data, grouping the codes into themes, and drawing conclusions. To ensure data validity, source triangulation, member checking with participants, and peer debriefing with colleagues were employed to review the analysis results.

3. RESULT AND DISCUSSION

a. Results

1. Respondent Characteristics

This study was conducted on a pregnant woman with the initials Ms. “Y,” aged 25 years, Muslim, of Sasak ethnicity, and working as a housewife. Ms. “Y” resides in Labulia Village and was undergoing her second pregnancy with a gestational age of 28 weeks during the first visit on August 29, 2024.

2. Initial Assessment Results

During the first visit, Ms. “Y” reported several symptoms including dizziness, weakness, fatigue, lethargy, and difficulty sleeping. Her menstrual history showed a regular 28-day cycle and menarche at the age of 13. The current pregnancy was at 28 weeks based on the last menstrual period (LMP) and the expected delivery date (EDD) calculated accurately. Fetal movements were already felt, and no danger signs of

pregnancy were detected. However, the subject expressed concerns about undergoing a normal delivery.

Her antenatal care (ANC) history indicated she had attended two visits in the first trimester and two visits in the second trimester, receiving iron tablets and vitamin B6 as treatment. She had not yet undergone any ANC examination in the third trimester. Additionally, she had received a tetanus toxoid (TT) immunization.

3. Physical Condition and Supporting Examinations

Physical examination showed that Ms. "Y" was in good general condition, fully conscious (compos mentis), and emotionally stable. Her body weight decreased from 67 kg before pregnancy to 65 kg at the time of examination. Vital signs were within normal limits except for slightly low blood pressure at 100/60 mmHg. Pale conjunctiva and nails were observed, indicating anemia.

Fetal heart rate (FHR) was measured at 144 beats per minute, with the fetus still positioned in the fundus and not yet engaged in the pelvis (not in pelvic inlet). Laboratory tests revealed a low hemoglobin level of 8.0 g/dL, blood type B, and negative urine protein. HIV and syphilis tests were also negative.

4. Diagnosis and Intervention

Based on the assessment results, Ms. "Y" was diagnosed with severe anemia in the third trimester of pregnancy. Interventions included education on anemia during pregnancy, the importance of iron intake, and oral medication with iron tablets (Fe) twice daily, vitamin B6 three times daily, and vitamin C twice daily. Additionally, the subject was advised to consume iron-rich foods and undergo follow-up ultrasound examinations to monitor fetal condition.

5. Evaluation of the First Visit

At the end of the visit, Ms. "Y" stated that she understood the examination results and the importance of consuming medication and nutritious foods to improve hemoglobin levels. She also agreed to undergo ultrasound examination as advised.

6. Follow-up Visit Results

The follow-up visit was conducted on September 25, 2024, when the gestational age reached 32 weeks. During this visit, Ms. "Y" reported that symptoms of dizziness, weakness, fatigue, and sleep disturbances were no longer present. She regularly took the prescribed medication. Physical examination revealed vital signs within normal limits, with blood pressure of 120/80 mmHg, pulse rate 80 beats per minute, body temperature 36.5°C, and respiration rate 20 breaths per minute. Fetal heart rate was

recorded at 140 beats per minute, with the fetus still not engaged in the pelvis. Laboratory results showed an increased hemoglobin level of 11.8 g/dL, negative urine protein, and no presence of urine reduction.

7. Assessment and Follow-up of the Second Visit

Based on these results, Ms. "Y" was categorized as having mild anemia in the third trimester, and her overall pregnancy condition was good. Therapy was continued with paracetamol, iron tablets 60 mg twice daily for 10 days, and vitamin C 1000 mg twice daily. Education was also provided to reinforce the subject's understanding of the importance of therapy and maintaining a healthy lifestyle during pregnancy.

8. Evaluation of Follow-up Visit

Ms. "Y" expressed understanding of the examination results and the success of the therapy marked by the increase in hemoglobin levels. She demonstrated adherence to the medication regimen and agreed to continue therapy as recommended.

9. Summary of Findings

This study shows that severe anemia during the third trimester of pregnancy can be effectively managed through nutritional intervention, pharmacological therapy, and effective education. The significant increase in hemoglobin levels after one month of therapy indicates the success of the anemia management program for this pregnant woman. Family support and maternal motivation also played an important role in achieving positive outcomes.

b. Discussion

At the first visit, the pregnant woman, Mrs. "Y," complained of symptoms such as dizziness, weakness, fatigue, and lethargy. When asked about her knowledge of anemia during pregnancy, she admitted that she did not understand what anemia was. Through education, she was explained that anemia in pregnancy is a serious condition that can negatively affect both the mother and the fetus, including risks such as miscarriage, bleeding during pregnancy, premature delivery, fetal complications, as well as complications during labor and the postpartum period. Therefore, she was advised to consume nutritious foods high in iron and to avoid foods and drinks that inhibit iron absorption, in order to support optimal red blood cell production. She was also instructed to routinely take the medications provided by healthcare workers.

At the second visit, there was an improvement in the mother's and her family's understanding of the anemia condition. This indicates that the educational intervention was

effective in raising family awareness about the importance of managing anemia during pregnancy.

Interpretation of the data obtained from visits I and II shows that the lack of knowledge among the mother, her husband, and family was a key factor causing severe anemia in the third trimester. Ideally, a pregnant woman's hemoglobin (Hb) level should reach 12 g/dL; if it falls below this value, the risk of complications for both mother and fetus increases. The symptoms and signs experienced by Mrs. "Y" correspond with existing theory, thus no significant gap was found between theory and actual conditions in the field.

The primary diagnosis identified in this case is severe anemia during the third trimester of pregnancy. Potential problems that may arise include miscarriage, bleeding during pregnancy, premature delivery, fetal disturbances, and complications during labor and the postpartum period.

As an immediate action, education or communication, information, and education (CIE) were provided to the mother about the impacts of anemia during pregnancy, including the importance of adequate rest, adherence to medications such as iron tablets (Fe), and maintaining an iron-rich diet. She was also reminded to avoid consuming foods containing substances like tannins that can inhibit iron absorption.

A comprehensive care plan was developed based on problem identification and anticipation of possible complications. The main goal of this plan was to provide the mother with an understanding of anemia during pregnancy and initial management steps to prevent more serious conditions.

The implementation of care was carried out consistently from August 29 to September 25, 2024. During this period, no significant obstacles were encountered because all interventions were tailored to the mother's needs and supported by her cooperative attitude in following all recommendations well. This enabled the achievement of the care goals.

Evaluation of the midwifery care showed significant progress. Initially, the mother did not understand what anemia during pregnancy was, but after receiving education and treatment, she was able to comprehend the importance of anemia management and demonstrated compliance with the therapy. Thus, no gap existed between expectations and reality in the case management process, indicating the success of the midwifery care provided.

Anemia in pregnancy is a serious health issue with significant impacts on maternal and fetal health. Data from this study show that Mrs. "Y" experienced severe anemia in the third trimester with a hemoglobin level of 8.0 g/dL, which meets the World Health Organization's (WHO) criteria for severe anemia in pregnancy (< 9.0 g/dL) (WHO, 2011). Severe anemia during pregnancy increases the risk of complications such as miscarriage, bleeding, premature labor, and impaired fetal development (Kumari et al., 2020; Balarajan et al., 2011).

The low knowledge of the mother and her family about anemia in pregnancy was the main factor in this severe anemia case. This aligns with research indicating that lack of education and information affects adherence to iron supplement consumption and a nutritious diet during pregnancy (Haider et al., 2013). The education provided during visits successfully improved the understanding of the mother and family, contributing to positive behavioral changes, including adherence to iron tablets, vitamins, and consumption of iron-rich foods.

Educational interventions and iron supplementation were proven effective in increasing the hemoglobin levels of pregnant women in this study. The increase in Hb from 8.0 g/dL to 11.8 g/dL at the follow-up visit aligns with previous findings that iron supplementation and nutritional education reduce the prevalence of anemia during pregnancy (Rossi et al., 2011; Finkelstein et al., 2015).

The mother's slightly low blood pressure (100/60 mmHg) and anemia signs such as pale conjunctiva and nails also indicated the need for intensive monitoring and early intervention. The success of this midwifery care was also supported by family support and the mother's high motivation, factors identified as crucial for successful anemia management in pregnancy (Galloway et al., 2002).

Overall, the results of this study underscore the importance of health education for pregnant women and their families as an integral part of antenatal care (ANC) programs for anemia prevention and management. The consistent implementation of educational strategies and iron supplementation needs to be strengthened to reduce pregnancy complication risks caused by anemia.

4. CONCLUSION

Based on the results of the study on pregnant women with severe anemia in the third trimester, it can be concluded that pregnancy anemia is a serious condition requiring prompt intervention, where limited knowledge from the mother and her family contributes to the occurrence of anemia. Providing education, iron supplementation, and routine monitoring

effectively increases hemoglobin levels and improves the mother's condition. Therefore, it is recommended that pregnant women and their families enhance their understanding of anemia and the importance of consuming nutritious foods and iron supplements, while healthcare providers should deliver intensive education and monitoring. Additionally, further research with a larger sample size is encouraged to gain a broader understanding of anemia management in pregnant women to reduce the risk of pregnancy complications.

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