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Community and Family-Centered Midwifery Care for Moderate Anemia in Third Trimester: The Case of Mrs. 'I' in Pemangket

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Abstract. *Anemia during pregnancy remains a major health issue, especially in developing countries like Indonesia. This report presents community midwifery care for the family of Mr. "M," focusing on Mrs. "I" who was diagnosed with moderate anemia in the third trimester of pregnancy in Pemangket Hamlet, Ubung Village, Jonggat District, Central Lombok Regency. The objective of this activity was to provide education and intervention related to pregnancy anemia using a family-based approach. The method used is a case study with steps including problem identification, analysis, potential diagnosis, planning, intervention, and evaluation. The assessment showed that lack of compliance in taking iron tablets and limited nutritional knowledge were the main contributing factors to anemia. Interventions such as health education, iron tablet monitoring, and family support led to increased awareness and adherence in managing anemia. This community-based approach is expected to serve as an effective strategy in tackling pregnancy-related anemia in rural areas.*

Keywords: *pregnancy anemia, community midwifery care, third trimester, family education*

1. INTRODUCTION

Anemia during pregnancy is a major health problem in developing countries, with a high morbidity rate among pregnant women. The average rate of pregnancy-related anemia in Asia is estimated at 72.6% (Sasmita, 2022). The high prevalence of anemia in pregnant women is a significant concern for the Indonesian government, as it is associated with increased maternal morbidity and mortality. Pregnant women are considered anemic when their hemoglobin levels are below 11 g/dl in the first and third trimesters, and below 10.5 g/dl in the second trimester (Hariati et al., 2020).

According to WHO data, maternal mortality remains high globally, with over 300,000 deaths annually due to bleeding, hypertensive disorders, and sepsis. WHO states that the prevalence of pregnancy-related anemia ranges from 20.0% to 89.0%, using 11 g/dl of hemoglobin as the threshold (WHO, 2021). In Indonesia, the three leading causes of maternal death during 2018–2019 were bleeding, hypertension, and infection, with bleeding often linked to anemia (Ministry of Health RI, 2020).

The NTB Provincial Health Profile reports 29 cases of anemia in 2016, 30 cases in 2017, and a rise to 34 cases in 2018 (NTB Health Department Report, 2018). In Central Lombok Regency, the prevalence of anemia among pregnant women is 8.77%. The number of anemia

cases in pregnant women in this area has increased yearly from 2021 to 2022. In 2021, 34 (4.19%) pregnant women had anemia, which rose to 48 (5.92%) in 2022.

According to the 2020 PWS KIA report from UPTD Ubung Health Center, there were 858 pregnant women in the area. The coverage of first antenatal visits (K1) was 109.09%, complete antenatal care visits (K4) 94.41%, risk factor and complication detection 103.86%, managed maternal complications 132.75%, deliveries by health personnel 96.94%, non-health personnel deliveries 0.49%, and health facility deliveries 96.94%. Anemic pregnant women accounted for 3.50%, while those with Chronic Energy Deficiency (CED) were 13.29%.

The impact of anemia during pregnancy includes reduced immune function, increased risk of infection, decreased quality of life, and potential complications such as miscarriage, bleeding that could lead to maternal death, premature birth (before 9 months), low birth weight (BB < 2500g), short birth length (<48 cm), and in cases of severe anemia, the risk of stillbirth (Ministry of Health RI, 2020).

Another contributing factor is poor compliance in consuming iron (Fe) tablets. Pregnant women are advised to consume at least 90 Fe tablets throughout pregnancy. Regular intake helps increase hemoglobin levels. Proper consumption requires awareness and compliance from the pregnant woman (Dewi & Mardiana, 2021). According to the Ministry of Health RI (2020), causes of anemia include poor and unbalanced diet, CED (mid-upper arm circumference <23.5 cm), closely spaced pregnancies (<2 years), and infections that cause iron loss.

Research by Zuiatna (2021) shows a significant correlation between knowledge and the incidence of anemia (p-value 0.040 < 0.05). One major cause of anemia in pregnant women is the lack of knowledge regarding the importance of consuming nutritious foods for both mother and fetus. Iron is an essential nutrient, and insufficient intake increases the risk of anemia, negatively impacting fetal growth and development. It can be concluded that anemia in pregnant women is caused by poor adherence to Fe tablet consumption and lack of knowledge regarding the importance of a nutritious diet.

2. METHODE

This research employed a descriptive qualitative case study design, focusing on the provision of community-based midwifery care for a pregnant woman experiencing moderate anemia in her third trimester. The subject was Mrs. “I”, aged 25, who was selected based on her risk status as identified by the local health center. The study was conducted in Pemangket Hamlet, Ubung Village, Jonggat Subdistrict, Central Lombok Regency, during the period of September to October 2024.

The population of the study consisted of pregnant women with risk indicators, particularly those suffering from anemia, within the jurisdiction of UPTD Puskesmas Ubung. However, the sample was determined purposively, focusing solely on one family unit to allow an in-depth and focused exploration. The data collection techniques involved interviews, observations, physical examinations, and document analysis. These instruments were designed to gather both subjective and objective data, including hemoglobin levels, nutritional intake, adherence to iron tablet consumption, and environmental conditions.

The data obtained were analyzed using descriptive qualitative methods. Data were compiled, categorized, and interpreted based on community midwifery management principles, including problem identification, analysis, diagnosis formulation, intervention planning, implementation, and evaluation. The research model followed the community midwifery approach emphasizing health education, early detection, preventive action, and family empowerment.

No advanced statistical tests such as F-test or t-test were applied in this research, given its qualitative nature. However, the interpretation of findings is supported by existing literature and clinical guidelines related to maternal anemia management. The instruments used were reviewed for content validity through expert judgment, and findings from the field confirmed their practical reliability. Symbols and variables, such as Hb (hemoglobin levels) and Fe (iron intake), are presented in narrative form throughout the discussion.

This methodological approach aimed not only to address the clinical management of moderate anemia but also to enhance maternal awareness and family involvement in improving maternal health outcomes within a community context.

3. RESULT AND DISCUSSION

a. Result

1) Data Collection Process, Timeframe, and Study Location

The data collection for this study was conducted over a period of one month, from September to October 2024. The location of the study was Pemangket Hamlet, located within the working area of UPTD Puskesmas Ubung, Jonggat Subdistrict, Central Lombok Regency. The subject of the study was a 25-year-old pregnant woman, Mrs. “I”, in her third trimester of pregnancy and diagnosed with moderate anemia. Data collection included structured interviews, home and environmental observations, physical examinations, and a review of antenatal care documentation and Fe tablet compliance records.

2) Research Findings

The assessment revealed that Mrs. "I" had a hemoglobin level of 8.5 g/dl during her third trimester, indicating moderate anemia. The client reported irregular consumption of iron (Fe) tablets, with only 45 out of the recommended 90 tablets taken during pregnancy. Nutritional intake was insufficient, consisting mainly of carbohydrate-based meals with limited iron-rich food sources such as meat and green vegetables. The client also lacked knowledge regarding anemia and its risks during pregnancy.

Table 1 below summarizes the key findings

Indicator	Observation Result
Hemoglobin Level	8.5 g/dl (Moderate Anemia)
Compliance with Fe Tablet Intake	45 tablets consumed (non-compliant)
Nutritional Intake	Low in iron, dominated by rice-based food
Knowledge of Anemia Risks	Limited
ANC Visit Compliance (K1–K4)	Complete (K4 reached)

b. Discussion

The findings of this study clearly confirm that non-compliance with iron (Fe) supplementation and inadequate nutritional intake are major factors significantly contributing to the incidence of moderate anemia in pregnant women. This aligns with the findings of Dewi and Mardiana (2021), who identified adherence to Fe tablet consumption and nutritional knowledge as key determinants of anemia during pregnancy. Such non-compliance is reflected in the subject's low hemoglobin levels, indicative of chronic iron deficiency and reduced oxygen transport capacity in the blood.

Limited knowledge regarding iron-rich food sources further exacerbates the anemia condition in pregnant women. This is consistent with the report from the Ministry of Health of the Republic of Indonesia (2020), which states that hemoglobin levels below 11 g/dL during the third trimester are indicative of anemia and are often closely related to insufficient iron intake. A lack of understanding about the importance of balanced nutrition and foods that support iron status improvement is a significant barrier to effective anemia management.

Beyond adherence and nutritional knowledge, the social and cultural context of the family plays a crucial role in influencing the health behaviors of pregnant women. The family-based educational intervention in this study successfully increased the subject's awareness and commitment to continuing iron supplementation and consuming iron-rich nutritious foods. These findings support the community-based health promotion theory,

which emphasizes the importance of family empowerment in facilitating behavioral change (Kurniati, 2020).

Educational approaches involving the family as the unit of intervention are effective strategies for enhancing adherence and promoting healthy lifestyle practices among pregnant women. A study by Sulung et al. (2022) similarly found that family support is a critical factor in the success of iron supplementation programs and anemia management. This underscores the necessity for maternal health programs to adopt holistic and context-specific approaches that consider the social environment of the mother.

Low compliance with Fe tablet consumption is often influenced by multiple factors, including medication side effects, lack of motivation, and insufficient supervision during antenatal care (ANC) visits. Therefore, continuous monitoring and personalized education approaches are key to improving the effectiveness of iron supplementation programs. Koerniawati et al. (2021) assert that good knowledge about anemia and iron intake positively correlates with adherence to Fe tablet consumption.

From a healthcare service perspective, routine hemoglobin level screening during ANC visits is essential for early detection and management of anemia. The role of midwives and healthcare providers is critical in delivering comprehensive nutritional counseling and motivating pregnant women to maintain a balanced diet and comply with iron supplementation (Ambarwati et al., 2019). Such approaches contribute to reducing anemia prevalence and preventing pregnancy-related complications.

Furthermore, improvement in anemia status during pregnancy not only benefits maternal health but also positively impacts fetal growth and development while preventing maternal and neonatal morbidity and mortality. Wulandari et al. (2021) demonstrated that iron-deficiency anemia in pregnancy increases the risk of preterm birth, low birth weight, and long-term cognitive developmental disorders in children.

In summary, this study emphasizes the importance of a multidimensional approach in managing anemia in pregnant women, encompassing continuous education, adherence monitoring, family support, and strengthening healthcare services. Integrated, community-based interventions are believed to significantly reduce anemia prevalence and improve the overall health outcomes of mothers and infants.

4. CONCLUSION

This study concludes that moderate anemia during the third trimester of pregnancy in the case of Mrs. “I” was primarily caused by non-compliance with iron tablet (Fe) consumption

and inadequate nutritional intake, particularly a lack of iron-rich foods. The subject's limited knowledge regarding the risks of anemia and the importance of a balanced diet further contributed to the condition. Through the application of community-based midwifery care, including targeted education and family engagement, there was a noticeable improvement in the subject's awareness and commitment to managing her condition. These findings support the importance of personalized health education and active family involvement in addressing maternal health issues within the community setting.

Based on these conclusions, it is recommended that midwives continue to strengthen antenatal counseling efforts with an emphasis on the importance of iron supplementation and adequate nutrition. Regular monitoring of hemoglobin levels and Fe tablet adherence should be part of routine ANC services. Community health workers should also involve family members to reinforce knowledge and support compliance in daily life. While the findings are relevant to the specific case examined, caution must be exercised in generalizing the results to broader populations due to the study's limited sample size and localized context.

A limitation of this study lies in its single-subject case approach, which may not fully capture the diversity of experiences among pregnant women with anemia in other regions. Future research is encouraged to include a larger and more diverse sample to examine variations in anemia causes and responses to intervention strategies. Longitudinal studies may also provide deeper insights into long-term outcomes of community-based maternal health interventions. Despite these limitations, this study provides valuable insights into the practical role of midwives and family-centered care in preventing and managing maternal anemia.

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