

EDUCATION ON THE HANDLING AND PREVENTION OF MILD ANEMIA IN PREGNANT WOMEN IN THE WORKING AREA OF THE TUNTUNGAN PUBLIC HEALTH CENTER IN MEDAN CITY IN 2024

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ABSTRACT

Anemia is a condition where the hemoglobin level in the blood is below normal, with reference limits varying based on age and gender. This study focuses on the relationship between education level and the incidence of anemia in pregnant women. Anemia in pregnancy is generally caused by deficiencies in iron, vitamin D, and vitamin B12 intake, as well as impaired blood cell formation. This case study describes the management of anemia in a 25-year-old pregnant woman at 17 weeks and 4 days gestation. The care provided included administering iron tablets, education (IEC) regarding nutritious food consumption, and encouragement to attend regular antenatal care (ANC) visits. This community service activity aimed to improve pregnant women's understanding of anemia prevention and management in the Tuntungan Community Health Center (Puskesmas) area. The methods used were health education and the provision of iron tablets. The results showed an increase in pregnant women's knowledge about anemia and its prevention. In conclusion, health education and the provision of iron tablets play a crucial role in managing anemia in pregnant women in the area.

Keywords: *Anemia, Anemia Prevention, Iron Tablets, Anemia Education*

Introduction

Anemia in pregnancy is a condition where hemoglobin levels are below normal (<11 g/dL), which can negatively impact the health of both the mother and the fetus during pregnancy (WHO, 2017). Anemia in pregnancy remains a global public health problem due to its high prevalence, particularly in developing countries, and is associated with an increased risk of bleeding, premature birth, and low birth weight (Stephen, G., Mgongo, M., Hashim, T. H., Katane, J., Stray-Pedersen, B., & Msuya, 2022).

The World Health Organization reports that approximately 41.8% of pregnant women worldwide suffer from anemia, indicating that nearly half of the pregnant

population is vulnerable to complications from anemia (Organization, 2021). This high prevalence of anemia is generally caused by iron deficiency, low nutritional intake, and a lack of knowledge among pregnant women regarding the prevention and management of anemia during pregnancy (Indonesia, 2021).

In Indonesia, anemia in pregnant women remains a serious health problem, with a prevalence of 48.9% according to the 2018 Basic Health Research. This figure indicates that nearly half of pregnant women in Indonesia suffer from anemia, necessitating ongoing promotive and preventive efforts to reduce the incidence of anemia during pregnancy (Riskesdas 2018, 2019).

At the regional level, North Sumatra Province has a relatively high prevalence of anemia in pregnant women, particularly in

Medan City, which is reported to reach around 40.5%. The high rate of anemia among pregnant women in this region indicates that the problem still requires serious attention from health workers and policymakers (Utara, 2022).

Primary healthcare data at the Tuntungan Community Health Center confirms a significant anemia prevalence of 27.1% among expectant mothers. These localized findings indicate that mild gestational anemia remains a persistent clinical challenge within the study area, necessitating targeted strategies to improve maternal hematological status (Center, 2023).

Efforts to prevent and treat anemia in pregnant women should not only focus on providing iron (Fe) tablets, but also require structured and ongoing health education. Health education has been shown to improve pregnant women's knowledge about anemia, the importance of consuming nutritious foods, and their adherence to taking iron tablets and undergoing regular antenatal care checkups.

Anemia is a condition characterized by hemoglobin (Hb) levels in pregnant women that are below normal, resulting in an inability to meet the physiological needs of the body. Anemia is defined as hematocrit (Ht) levels, hemoglobin (Hb) concentration, or red blood cell counts that fall below the normal range. Iron plays a crucial role in fetal growth. During pregnancy, iron intake must be increased because the volume of blood in the mother's body increases. Therefore, to maintain the mother's nutritional needs and supply food and oxygen to the fetus, which is delivered through the placenta, a higher intake of iron is required (Ginting *et al.*, 2021)

Results of Activities Discussion This community service was conducted in Medan

Tuntungan sub-district by Puskesmas Tuntungan, focusing on pregnant women with mild anemia. In the working area of Puskesmas Tuntungan, there are 11 pregnant women with mild anemia.

This activity was designed to provide health education information that includes signs and symptoms of anemia in pregnant women, its impact, as well as prevention and treatment strategies. In addition, participants received guidance on the administration of blood supplement tablets. Through this approach, it is hoped that mothers can better understand how to meet their iron needs to prevent anemia problems in pregnant women.

Research Summary and Data Collection

This study was conducted at Puskesmas Tuntungan on pregnant women diagnosed with mild anemia who met the inclusion criteria, including having an appropriate obstetric diagnosis, willingness to participate, and cooperative behavior. Patients who did not meet these criteria were excluded from the study. Two types of data were collected:

- Primary Data: Obtained through interviews and observations using questionnaires and checklists.
- Secondary Data: Collected from medical records at Puskesmas Tuntungan.

The research process involved obtaining official permission, selecting cases, providing education to pregnant women, explaining the study's objectives, and delivering obstetric care, which included assessment, obstetric diagnosis, intervention planning, implementation, and evaluation. All activities were systematically documented.

Table 1 Distribution of Respondent Characteristics at Tuntungan Community Health Center in 2024

Karakteristik	F	Presentase%
Knowledge		
Not enough	4	36,36%
Enough	5	45,45%
Good	2	18,18%
Attitude		
Not Enough	7	63,63%
Enough	3	27,27%
Good	1	9,09%
Action		
Not Enough	5	45,45%
Enough	2	18,18%
Good	4	36,36%

From table 1. It shows that, of the 11 respondents, the majority of respondents' knowledge is in the sufficient category, 5 (45.45%), some are lacking, 7 people (63.63%), and actions are lacking, 5 people (45.45%).

During the implementation of the activity (Figure 1), all invited mothers attended the event until the end, achieving a 100% attendance rate. The counseling activity was accompanied by health workers who provided in-depth explanations and answered participants' questions. The presence of the health worker was crucial to ensure that the information presented was accurate and relevant, and to motivate the women to increase their attention to food intake during pregnancy. Direct interaction with the health workers also provided an opportunity for the women to get concrete solutions to their problems.

Especially for pregnant women who experience anemia during pregnancy, they will continue to receive fe tablets periodically at the Puskesmas. This program aims to ensure continuous monitoring and support in improving anemia in pregnant women. With the provision of fe tablets and regular education and support activities, it is expected that the anemia status of pregnant women will

decrease significantly, and the problem of anemia can be effectively addressed. This activity is an important step in improving the health and well-being of pregnant women in the Tuntungan Health Center working area.

Figure 2. Education on giving fe tablets

Maternal Mortality Rate (MMR) is one indicator to see the success of maternal health efforts. MMR is the ratio of maternal deaths during pregnancy, childbirth and postpartum which are caused by pregnancy, childbirth and postpartum or its management but not due to other causes such as accidents for every 100,000 live births. Based on statistical tests, the results obtained were $p = 0.001 < 0.05$, which can be interpreted that there is an influence between maternal age and the incidence of anemia in third trimester pregnant women $p \text{ value} = 0.021 < 0.05$, which means that there is an influence between maternal education and the incidence of anemia in third trimester pregnant women. $p \text{ value} = 0.010 < 0.05$, which means that there is an influence between maternal knowledge and the incidence of anemia in third trimester pregnant women. $p \text{ value} = 0.038 < 0.05$, which means that there is an influence between maternal parity and the incidence of anemia in third trimester pregnant women (Fitriani, Fitriani; Manurung, Basaria; Pitaloka, 2023).

Discussion

Empirical results from this intervention underscore the significant impact of targeted nutritional counseling on maternal-fetal outcomes. Direct pedagogical approaches have proven effective in elevating community literacy regarding nutritional fulfillment during pregnancy. By disseminating clear, evidence-based information on dietary requirements and their direct role in fetal anthropometric growth, this education empowers families to make informed clinical decisions. Ultimately, enhanced nutritional awareness serves as a primary deterrent against gestational anemia, fostering improved maternal health and optimal neonatal development (Sutraningsih, 2021).

Clinical administration of iron (Fe) supplementation is a proven strategy for elevating hemoglobin concentrations and mitigating gestational anemia. However, optimal fetal anthropometric development is not solely dependent on supplementation, but also on comprehensive nutritional fulfillment. This research highlights that Socioeconomic Status (SES) significantly dictates maternal access to high-quality nutrients and healthcare facilities. While affluent conditions facilitate better nutritional security, economic constraints pose substantial barriers to maintaining dietary standards. Furthermore, the built environment—encompassing proximity to healthcare and educational infrastructure—serves as a critical determinant. Consequently, effective interventions must move beyond clinical prescriptions to address the broader socio-environmental and economic disparities affecting maternal health (Sutraningsih, 2021).

Anemia during pregnancy is anemia caused by iron deficiency. Iron deficiency anemia in pregnant women is a health problem experienced by women around the world, especially in developing countries. However, the prevalence of anemia is still high in Bangun Rejo Village, reaching 31.25%. One of the reasons for the failure of iron supplementation is that pregnant women are reluctant to take medication, resulting in

pregnant women often experiencing premature birth, low birth weight, and bleeding due to anemia. The results of community service activities show that dragon fruit can be consumed to prevent anemia and answer questions about anemia.

Education on the management and prevention of anemia in pregnant women is a crucial aspect in improving maternal and child health in the working area of Puskesmas Tuntungan Kota Medan. This counseling program provides insights on the importance of balanced nutrition, as well as ways to identify and treat anemia problems in pregnant women. Through intensive education, it is hoped that the community can be more sensitive to the signs of hemoglobin deficiency in the blood and take preventive measures to avoid the problem. This approach helps build community awareness of the importance of nutrition in the early stages of fetal development and encourages better practices in nutrition during pregnancy (Azizah *et al.*, 2023).

Based on Riskesdas data, in 2018 the prevalence of anemia in pregnant women increased to 48.9% compared to 37.1% in 2013. Anemia in pregnant women must be detected as early as possible and given appropriate treatment. The results of the community service activities that were carried out using the extension method by distributing knowledge questionnaires before and after the extension and conducting free Hb checks. The results of the community service showed that there was an increase in knowledge about the prevention of anemia during pregnancy and that the majority of pregnant women, 17 people, were not anemic (Adethia *et al.*, 2022).

Conclusion and Suggestion

After the counseling activities, there was an increase in knowledge of pregnant women about anemia and there was a change in attitude, pregnant women were willing to take fe tablets to increase hemoglobin levels in the blood and mothers were willing to consume nutritious foods. This is very much done in the working area of Puskesmas Rantang and in the community itself, because

early prevention can reduce the high number of cases that have an impact on the incidence of anemia in the working area of Puskesmas Tuntungan, maternal mortality rate (MMR) and infant mortality rate (IMR) in Indonesia.

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