

## COMMUNITY SERVICE ACTIVITY REPORT IN RW 07 RAGUNAN, PASAR MINGGU, SOUTH JAKARTA, YEAR 2026

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### Abstract

#### Keywords:

Pregnancy Anemia,  
Orange Juice,  
Vitamin C,  
Hemoglobin,  
Community Midwifery.

Anemia in pregnant women remains a public health problem that contributes to an increased risk of pregnancy and childbirth complications. One effort that can be carried out to support the management of anemia is a non-pharmacological intervention through increasing vitamin C intake to enhance iron absorption. This community service activity aimed to increase hemoglobin levels in pregnant women with anemia through an intervention of providing orange juice as a natural source of vitamin C. The activity was conducted in RW 07 Ragunan Subdistrict, Pasar Minggu, South Jakarta, during the period of December 15, 2025 to January 10, 2026. The implementation method included identifying community health problems, determining priority problems using the Urgency, Seriousness, Growth (USG) method, health education using leaflets, and providing orange juice to pregnant women with anemia as a companion to iron supplementation. The target of this activity was pregnant women with hemoglobin levels below the normal value. The results showed that the orange juice intervention was well accepted by pregnant women and had the potential to increase the effectiveness of iron absorption, as indicated by improvements in the mothers' clinical condition and increased understanding regarding anemia prevention. In addition, this activity contributed to improving pregnant women's self-efficacy in maintaining pregnancy health. It can be concluded that providing orange juice as a non-pharmacological intervention is a simple, economical, and sustainable effort in community midwifery care to support the prevention and management of anemia in pregnant women.

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## INTRODUCTION

Health development aims to increase awareness, willingness, and the ability to live a healthy life for every resident in order to achieve the highest possible health status. This effort is implemented through various health programs focusing on improving the quality of human resources, one of which is through maternal and child health services. The health of pregnant women is a top priority because the mother's health condition during pregnancy greatly affects the safety of both the mother and the fetus (Ministry of Health of the Republic of Indonesia, 2021).

One health problem that is still commonly found in pregnant women is anemia. Anemia in pregnancy is defined as a condition where hemoglobin (Hb) levels are less than 11 g/dL. Anemia in pregnant women can increase the risk of pregnancy and childbirth complications, such as preterm delivery, postpartum hemorrhage, low birth weight infants, and increased maternal and infant morbidity and mortality (World Health Organization, 2022).

Efforts to overcome anemia in pregnant women are generally carried out through iron supplementation (Fe tablets). Pregnant women are recommended to consume one iron tablet per day, so that in one month they consume approximately 30 tablets, and during pregnancy at least 90 Fe tablets to prevent anemia. Fe tablets generally contain 60 mg of elemental iron and 0.4 mg (400 µg) of folic acid, where iron plays a role in hemoglobin formation and folic acid plays a role in red blood cell formation and the prevention of neural tube defects in the fetus. Consuming Fe tablets according to the dosage and content has been proven to be associated with increased hemoglobin levels and decreased incidence of anemia in pregnant women (Wulandari & Handayani, 2019).

However, the success of iron therapy is not only determined by adherence to Fe tablet consumption, but is also influenced by supporting nutritional intake, particularly vitamin C. Vitamin C plays a role in increasing the absorption of non-heme iron by converting iron from the ferric form (Fe<sup>3+</sup>) into the ferrous form (Fe<sup>2+</sup>), which is more easily absorbed by the body (WHO, 2022).

The importance of self-efficacy in this context is very crucial; pregnant women with high self-confidence tend to be better able to manage anxiety and are more compliant with health recommendations, including consuming Fe tablets. Non-pharmacological efforts such as providing orange juice as a natural source of vitamin C are identified as a strategic step to improve iron absorption while empowering mothers through a simple and economical intervention.

Oranges are one of the natural sources of vitamin C that are easy to obtain, affordable, and safe for pregnant women to consume. Providing orange juice together with Fe tablet consumption has been proven to increase hemoglobin levels in pregnant women with anemia. Studies show that the combination of Fe tablets and orange juice results in better increases in hemoglobin levels compared to administering Fe tablets alone (Qonitun et al., 2023).

Based on the assessment conducted on Mrs. L, it was found that the pregnant woman experienced anemia. To support the success of iron therapy, a non-pharmacological intervention was carried out in the form of providing orange juice as a natural source of vitamin C. This intervention was chosen because it is easy to apply,

does not cause side effects, and is suitable for the condition and needs of pregnant women.

The role of midwives is very important in providing comprehensive midwifery care. Midwives are expected to be able to provide evidence-based interventions that are in accordance with client needs, including the utilization of local food ingredients as supportive therapy. Therefore, this report was prepared to describe the implementation of orange juice administration intervention in pregnant women with anemia as a form of midwifery care.

Based on the description above, the author is interested in compiling a report entitled “Orange Juice Administration Intervention in Pregnant Women with Anemia” as an effort to support improving the health status of pregnant women.

## LITERATURE REVIEW

### 1. *Anemia in Pregnancy: Definition, Causes, and Clinical Impacts*

Anemia in pregnancy remains a major maternal health problem that can contribute to adverse pregnancy outcomes. Clinically, anemia is defined as a hemoglobin (Hb) level below 11 g/dL, reflecting reduced oxygen-carrying capacity in maternal blood circulation. During pregnancy, mild anemia can occur physiologically due to hemodilution, as plasma volume increases more rapidly than red blood cell mass. However, when nutritional intake particularly iron is insufficient, anemia may progress into a pathological condition requiring immediate attention. This condition is significant in community midwifery care because it is closely associated with increased risks of preterm labor, low birth weight (LBW), postpartum hemorrhage, and maternal morbidity. According to the World Health Organization, anemia is one of the most common nutritional deficiencies in pregnancy and must be managed effectively to support maternal and fetal wellbeing.

Iron deficiency is the most prevalent cause of anemia during pregnancy, often resulting from increased iron demands, poor dietary intake, low compliance with supplementation, and inadequate absorption. Furthermore, anemia can affect not only physical health but also psychological wellbeing. Pregnant women may experience fatigue, weakness, and reduced functional capacity, which can lower confidence and contribute to anxiety related to pregnancy and childbirth. Therefore, early detection through routine Hb assessment and comprehensive counseling becomes essential. Midwives play a key role in identifying anemia early, providing education on nutritional intake, and supporting adherence to iron supplementation. Through community-based approaches, anemia prevention and management can be strengthened by improving maternal knowledge, promoting healthy behaviors, and encouraging supportive environments for pregnant women to achieve a safer pregnancy and delivery.

### 2. *Iron Supplementation (Fe Tablets) as Standard Management for Pregnancy Anemia*

Iron supplementation, commonly delivered through Fe tablets, is recognized as the standard pharmacological intervention to prevent and treat anemia in pregnancy. National and global guidelines recommend that pregnant women consume one tablet daily and continue throughout pregnancy to meet increased physiological demands. Fe tablets typically contain elemental iron and folic acid, which are essential for hemoglobin synthesis, red blood cell formation, and fetal neural development. The success of supplementation is strongly influenced by adherence, which can be affected

by maternal knowledge, motivation, and tolerance to side effects. Many pregnant women report nausea, constipation, or discomfort when taking Fe tablets, which may reduce compliance and limit the expected therapeutic outcomes.

Although Fe tablets are widely available through antenatal care services, supplementation alone may not be sufficient if supporting nutritional factors are not addressed. Iron absorption depends on the gastrointestinal environment and is influenced by dietary components that either inhibit or enhance absorption. For instance, iron absorption is reduced when Fe tablets are taken together with tea, coffee, or calcium-rich foods, which is a common practice in some communities. Therefore, education regarding the correct method of iron tablet consumption becomes a critical component in midwifery care.

Evidence emphasizes that counseling on “how to take iron correctly” is as important as ensuring adherence itself. In community settings, midwives are expected to strengthen maternal understanding by delivering clear health messages, encouraging consistent intake, and supporting mothers in managing side effects. Strategies such as combining supplementation with acceptable dietary interventions can improve the effectiveness of Fe tablets and help pregnant women achieve optimal hemoglobin levels. Thus, iron supplementation should be implemented in a comprehensive manner, integrating pharmacological treatment, nutritional support, and continuous monitoring to reduce the burden of anemia in pregnancy.

### **3. *The Role of Vitamin C and Orange Juice in Enhancing Iron Absorption***

Vitamin C plays an essential role in improving non-heme iron absorption, making it a valuable supportive intervention for managing anemia in pregnant women. From a physiological perspective, vitamin C (ascorbic acid) acts as a strong reducing agent that converts ferric iron ( $\text{Fe}^{3+}$ ) into ferrous iron ( $\text{Fe}^{2+}$ ), the more soluble form that can be absorbed efficiently through the intestinal mucosa. This mechanism is particularly important in cases where iron intake is adequate but absorption remains suboptimal due to dietary inhibitors or gastrointestinal conditions. Several studies indicate that consuming vitamin C together with iron tablets can significantly increase iron absorption compared to taking iron tablets with plain water.

Orange juice is one of the most accessible natural sources of vitamin C and offers additional advantages in community-based interventions. Oranges are affordable, widely available, and generally safe for pregnant women. In addition to supporting iron absorption, the fresh taste of orange juice may reduce nausea, which is a common side effect of Fe tablets and often becomes a barrier to adherence. Research findings suggest that the combination of Fe tablets and orange juice leads to greater improvements in hemoglobin levels than Fe tablets alone, highlighting the potential benefit of integrating natural dietary strategies into maternal care.

In community midwifery practice, orange juice can be considered a simple, economical, and sustainable non-pharmacological intervention. It can be implemented alongside routine antenatal care programs and adapted to local resources. However, some pregnant women with gastritis or sensitive stomachs may experience discomfort due to the acidic nature of citrus fruits. In such cases, midwives should advise consuming orange juice after meals or selecting less acidic varieties. Overall, promoting orange juice as a companion to iron supplementation provides a practical strategy to strengthen anemia prevention efforts.

#### 4. *Self-Efficacy and Community Midwifery Strategies for Anemia Prevention*

Self-efficacy refers to an individual's belief in their ability to perform actions required to achieve desired health outcomes. In maternal health, self-efficacy is a critical psychological factor that influences adherence to recommended behaviors, including iron tablet consumption, dietary modification, and regular antenatal visits. Pregnant women with high self-efficacy tend to show stronger motivation, better self-control, and greater consistency in managing their health. In contrast, low self-efficacy may lead to avoidance behaviors, increased anxiety, and poor adherence to medical advice, ultimately increasing the risk of anemia-related complications.

In the context of anemia management, strengthening self-efficacy can improve compliance with iron supplementation and encourage healthier nutritional practices. Evidence supports that pregnant women who have higher self-efficacy demonstrate better adherence to taking Fe tablets compared to those with lower confidence. Community-based health education is one of the most effective approaches to enhance self-efficacy, as it provides not only information but also emotional support and encouragement. Through interactive counseling, midwives can help pregnant women understand that anemia is a manageable condition and that small consistent actions, such as taking Fe tablets correctly and consuming vitamin C-rich foods, can lead to improvement.

Community midwifery strategies also emphasize the importance of social support systems, including family involvement, health cadres, and peer groups. These support networks contribute to building confidence and sustaining long-term behavioral change. Furthermore, monitoring tools such as compliance cards or daily intake logs can reinforce self-management skills and maintain consistency. Integrating self-efficacy into anemia prevention programs strengthens not only physical outcomes, such as improved hemoglobin levels, but also psychological readiness and maternal empowerment. Therefore, self-efficacy-based interventions are highly relevant in community midwifery care to support sustainable anemia prevention and promote positive pregnancy experiences.

#### RESEARCH METHOD

The implementation of this community service program began with a problem identification stage through the collection of primary data using a questionnaire instrument. The assessment targets covered various life cycles, including pregnant women, postpartum mothers, infants, toddlers, adolescents, couples of reproductive age (PUS), and older adults. Based on the data processing results, three priority health problems were identified in the area: hypertension among older adults, anemia in pregnant women, and adolescents experiencing menstrual disorders.

Regarding anemia in pregnancy, this condition is clinically characterized by hemoglobin (Hb) levels below 11 g/dL. It is often physiological due to hemodilution caused by increased plasma volume exceeding red blood cell mass to meet maternal-fetal circulation needs. However, when nutritional intake especially iron is inadequate, anemia may become pathological and increase the risk of preterm birth, low birth weight (LBW), and postpartum hemorrhage, which is a major contributor to maternal mortality. Therefore, early detection through routine Hb examinations is crucial in community midwifery care.

Iron supplementation (Fe tablets) is the standard pharmacological intervention

for anemia prevention and management in pregnancy, yet its effectiveness depends on the chemical environment of the gastrointestinal tract. Vitamin C (ascorbic acid) acts as a strong reducing agent that converts ferric iron ( $\text{Fe}^{3+}$ ) into the more soluble ferrous form ( $\text{Fe}^{2+}$ ), facilitating intestinal absorption. Providing orange juice as a natural vitamin C source can enhance iron absorption potentially up to twice compared with plain water while offering a refreshing effect that may reduce nausea commonly associated with Fe tablets. In addition, strengthening maternal self-efficacy is essential, as higher self-efficacy is positively associated with adherence to iron tablets and the adoption of nutritious dietary patterns. Community-based health education supports this by delivering clear information, leveraging social support from health cadres, and reinforcing small successful practices such as routinely preparing orange juice at home.

Priority setting was conducted participatively through a Village Community Deliberation Forum (MMD) involving midwives, health cadres, and community leaders, using the Urgency, Seriousness, and Growth (USG) scoring method. The program was implemented from December 15, 2025 to January 10, 2026 in RW 07, Raganan. Materials and instruments included leaflets, a blood pressure device, an Hb testing tool, oranges, sugar, water, a blender, and bottles. The workflow consisted of problem surveying, USG-based prioritization, proposal development, intervention implementation, monitoring and evaluation, report writing, finalization, and publication.

## RESULT AND DISCUSSION

### *1. Mechanism of Action and Effectiveness (Theoretical Evaluation)*

The intervention of providing orange juice is a highly strategic step in community midwifery care. Oranges are rich in Vitamin C (ascorbic acid), which plays a crucial role in converting ferric iron ( $\text{Fe}^{3+}$ ) into ferrous iron ( $\text{Fe}^{2+}$ ) in the small intestine, making it easier for the body to absorb. Evaluation shows that consuming vitamin C together with iron supplementation tablets (TTD) can increase iron absorption up to twice as much compared to drinking only plain water (Sari et al., 2022).

### *2. Success in Increasing Hemoglobin (Hb) Levels*

Based on field data, this intervention is considered effective if carried out routinely for at least 14 days. Research results indicate that there is a significant increase in Hb levels in the group of pregnant women who consumed orange juice as a companion to TTD compared to the control group. This proves that education about “how to take medication correctly” is just as important as “adherence to taking medication” itself (Rahmi & Fadila, 2021).

### *3. Evaluation of Acceptance and Barriers in the Community*

#### **a. Advantages**

Orange juice is easy to obtain, affordable (economical), and has a fresh taste that can reduce the nausea often caused by Fe tablets. Mothers were also willing to consume orange juice regularly.

#### **b. Barriers**

Evaluation showed that there were constraints in pregnant women with a history of gastritis (stomach ulcers), where the sour taste of oranges sometimes triggered stomach discomfort. Midwives need to provide advice for orange juice to be consumed after meals or to choose sweeter orange varieties (Amalia et al., 2023).

In addition, there was a lack of interest among mothers in making orange juice

themselves at home.

#### 4. Sustainability

This intervention has a high level of sustainability because it utilizes local wisdom. However, evaluation of the consistency of the mothers needs to be conducted. The use of a compliance card or monitoring book for iron tablet and orange juice consumption is highly recommended to ensure that the intervention is carried out according to the protocol (Yuliani & Nurhayati, 2021).

### DISCUSSION

Based on the results of the analysis from data collection activities of pregnant women in RW 07 Pasar Minggu, South Jakarta community midwifery practice area, several maternal health problems were identified, including anemia in pregnant women and less optimal birth preparedness. Anemia in pregnant women is still a public health problem characterized by hemoglobin levels below normal values and has the potential to cause pregnancy and childbirth complications if not handled properly (WHO, 2020).

In addition to physical impacts, anemia during pregnancy can also affect the psychological condition of pregnant women. Pregnant women with anemia often experience excessive worry, fear, and anxiety regarding their pregnancy condition and the childbirth process they will undergo. This condition can reduce pregnant women's self-confidence in managing their health if not accompanied by adequate support and education.

Based on discussions with supervising midwives, health cadres, and groups of pregnant women, it was agreed to implement counseling regarding anemia in pregnant women and childbirth preparation. This activity aimed to increase pregnant women's knowledge regarding the definition of anemia, causes, signs and symptoms, the impact of anemia on pregnancy and childbirth, and prevention efforts through consuming iron supplementation tablets, fulfilling balanced nutrition, and routine antenatal care.

In addition to increasing knowledge, this activity also focused on strengthening pregnant women's self-efficacy. Self-efficacy is an individual's belief in their ability to carry out actions required to achieve optimal health conditions. Pregnant women with good self-efficacy tend to have high self-confidence, are able to manage anxiety, and are more compliant with health worker recommendations, including in the prevention and management of anemia.

Strengthening pregnant women's self-efficacy was carried out through providing clear and easily understood information, interactive discussions, and a supportive approach emphasizing that anemia during pregnancy is a condition that can be prevented and controlled. With this understanding, pregnant women are expected not to view anemia as a frightening condition, so it does not cause excessive stress or negative thoughts.

This is in line with research by Fatimah et al. (2019) which stated that pregnant women with high levels of self-efficacy have better adherence in consuming iron supplementation tablets compared to pregnant women with low self-efficacy. The study showed that the mother's confidence in managing her health condition significantly influences health behavior during pregnancy.

Another study by Puspitasari and Handayani (2020) found that community-based health education significantly increases pregnant women's self-efficacy in preventing anemia. Pregnant women who received education and assistance showed decreased

anxiety levels and increased self-confidence in undergoing pregnancy. In addition, support from health workers and family was proven to play an important role in building pregnant women's self-confidence.

The childbirth preparation activities carried out also contributed to improving pregnant women's self-efficacy. Education regarding signs of labor, planning the place and birth attendant, and mental readiness helped pregnant women feel more prepared and calm. Research by Nurjanah et al. (2021) stated that pregnant women with high self-efficacy tend to be more physically and psychologically prepared to face childbirth and have lower anxiety levels.

During the activity, pregnant women showed active participation by asking questions and sharing experiences. This enthusiasm reflects increased understanding and self-confidence in managing anemia conditions and preparing for childbirth. With increased self-efficacy, pregnant women are expected to undergo pregnancy more calmly, comply with health recommendations, and be ready to face childbirth optimally.

## CONCLUSION

Based on the results of assessment and implementation of community service activities in RW 07 Ragunan Subdistrict, Pasar Minggu, South Jakarta, it can be concluded that anemia in pregnant women remains a health problem that needs serious attention. The main problems found include low hemoglobin levels in pregnant women, less optimal vitamin C intake as a supporting factor for iron absorption, and self-efficacy of pregnant women that has not been maximized in adherence to iron supplementation tablet consumption.

The rationale for the intervention was based on the need to increase the effectiveness of anemia therapy, considering that iron tablet administration alone is not fully optimal if not accompanied by supporting nutritional intake. Vitamin C has an important role in increasing non-heme iron absorption by converting ferric iron into the ferrous form, which is more easily absorbed by the body.

Therefore, providing orange juice as a natural source of vitamin C was chosen as a non-pharmacological intervention that is safe, economical, easy to implement, and suitable for the conditions of the local community.

The intervention carried out consisted of health education using leaflets and the provision of orange juice as a companion to Fe tablet consumption for pregnant women with anemia. The implementation results showed that the intervention was well accepted by the target group, had the potential to increase hemoglobin levels, and increased pregnant women's knowledge and awareness regarding anemia prevention. In addition, strengthening self-efficacy through education and mentoring contributed to increasing pregnant women's self-confidence in carrying out health behaviors independently.

Thus, the orange juice intervention as part of community midwifery care is proven to be relevant and has the potential to become a sustainable promotive and preventive effort in supporting the prevention and management of anemia in pregnant women.

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