

Role of Midwives on Supporting IDA Prevention & Screening: Learning from International Guideline/Practice & Evidence

Endang Mariani Rahayu¹, Nova Lidia Sitorus^{2*}, Nova Yuningrat³

¹*Universitas Indonesia, Depok, Indonesia*

²*Danone SN Indonesia, Jakarta, Indonesia*

³*Ridwan Insitute, Cirebon, Indonesia*

**Correspondence: nova.sitorus@danone.com*

ABSTRACT: Iron deficiency anemia (IDA) is a significant global health problem, with negative impacts on the health of pregnant women, fetuses, and newborns, including the risk of complications such as preterm birth and low birth weight. Midwives play an important role in the prevention and early detection of IDA through education, nutritional counseling, and routine screening, in accordance with international guidelines that need to be adjusted to the local context and capacity of the health system in each country. This study aims to explore the role of midwives in the prevention and early detection of iron deficiency anemia (IDA) in pregnant women by referring to international guidelines, best practices, and the latest scientific evidence. The results of the review aims to discuss that the role of midwives in the prevention and screening of Iron Deficiency Anemia (IDA) is very important as the main service provider during pregnancy and childbirth. By utilizing international guidelines, midwives can improve understanding of effective screening techniques and IDA prevention strategies, such as early identification, iron supplementation, and education for pregnant women. Evidence-based practices implemented by midwives can improve maternal and fetal health and reduce the prevalence of maternal mortality (MMR).

Keywords- IDA prevention, IDA screening, midwives,

INTRODUCTION

Iron Deficiency Anemia (IDA) is a significant global health problem, especially in developing countries. IDA has a long-term impact on each life stage and remains worldwide a major public health problem (Sungkar et al., 2022). In 2019, the global prevalence of anemia reached 29.9% in women of reproductive age (15-49 years), covering more than half a billion women, with a breakdown of 29.6% in

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non-pregnant women and 36.5% in pregnant women. The impact of IDA is not only limited to maternal health, but also affects the fetus and newborn (WHO, 2020; Bathla & Arora, 2021). The prevalence of anemia in breastfeeding women is an area that requires further exploration and understanding, as there are limited data available. The WHO estimates that, in 2019, the global prevalence of anemia was 29.9% in women of reproductive age. Prevalence rates were 29.6% in non-pregnant women of reproductive age and 36.5% in pregnant women (Basrowi et al., 2024). Globally, it is estimated that around 40% of pregnant women are anemic, with more than 50% of these due to iron deficiency. IDA can increase the risk of complications during pregnancy, such as postpartum hemorrhage, preeclampsia, and infections. In addition, maternal anemia can affect fetal development, increasing the risk of premature birth, low birth weight, and even neonatal death. As a result, IDA is one of the leading causes of maternal and perinatal mortality (Steven et al., 2022). The World Health Organization (WHO) estimates that a quarter of the global population suffers from anemia, with half of these cases attributed to iron deficiency and with a higher prevalence in developing countries due to limited resources (Oktarina et al., 2024).

According to World Health Organization (WHO) data, IDA is responsible for 20% of maternal deaths associated with pregnancy complications, as well as 3% to 10% of neonatal deaths caused by lack of oxygen and nutrients due to maternal anemia. The regions with the highest prevalence of anemia in pregnant women are South Asia and Sub-Saharan Africa, which also have the highest maternal and infant mortality rates. This underscores the importance of efforts to address IDA, such as through iron supplementation, improved nutritional status, and better access to maternal health services that can reduce the adverse impact on mothers and babies (Sunuwar et al., 2020).

Pregnant women who experience IDA are at higher risk of pregnancy complications, such as premature birth, low birth weight, and maternal and infant mortality. The retaining midwife's knowledge and quality of care through training on specific skills is strongly needed (Bardosono et al., 2018). Midwives as the main health workers in maternal health services have an important role in the prevention and early detection of IDA through an evidence-based approach and international guidelines (Kumar et al., 2022).

As the frontline in pregnancy services, midwives have the responsibility to provide nutrition education and counseling to pregnant women, ensure compliance with iron supplement consumption, and conduct routine screening for anemia risk (Babah et al., 2024). Various international guidelines, such as those issued by the World Health Organization (WHO) and the International Federation of Gynecology and Obstetrics (FIGO), highlight the importance of midwife involvement in the prevention and

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management of IDA. However, the implementation of these guidelines requires adjustment to the local context and capacity of the health system in each country (Mulya & Kusumastuti, 2022).

Several studies have shown the effectiveness of evidence-based practices carried out by midwives in reducing the prevalence of IDA in pregnant women. Such as the study by Mulya & Kusumastuti (2022) which stated that in 2021, midwives in the Lawang Gintung Health Center area showed a significant supportive role (72.3%) in supporting anemia prevention behavior in pregnant women. These roles include providing education on proper nutrition, the importance of iron supplementation, routine health monitoring, and advocacy to increase awareness of pregnant women about the impact of anemia.

However, challenges remain, especially in areas with limited access to health services and adequate resources. Therefore, it is important for midwives to adopt a collaborative approach involving multiple sectors, such as government, non-governmental organizations, and local communities, to ensure the sustainability of interventions. By learning from international guidelines and best practices, midwives can optimize their role in supporting IDA prevention and screening, thereby contributing to improving the quality of maternal and child health globally (Gai et al., 2024).

Research conducted by Naz et al., (2024) stated that the midwife-led care model was proven in this study to be effective in increasing iron levels in pregnant women in Pakistan, with a focus on addressing the high prevalence of anemia. This approach emphasizes the important role of midwives as frontline health care providers in providing affordable and sustainable care, while empowering them to address maternal health challenges with a community-based approach.

The novelty of this study lies in its approach that integrates global perspectives with local implementation, providing insights into how midwives can effectively empower primary health care services to address IDA through a community-based approach that focuses on education, screening, and nutritional interventions. This study aims to explore the role of midwives in the prevention and early detection of iron deficiency anemia (IDA) in pregnant women by referring to international guidelines, best practices, and current scientific evidence.

METHODS

This research uses the literature review method. The literature review method is a research approach used to collect, analyze, and synthesize findings from various literature sources relevant to a particular research topic (Lim et al., 2022). The purpose of this method is to provide a comprehensive overview of the latest developments, key concepts, and pre-existing findings in the field under study.

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The process involves selecting credible sources, including books, journal articles, research reports, and other sources, which are then analyzed to find patterns, gaps, or new contributions to the understanding of the topic. Literature reviews can be used as a basis for developing new hypotheses, strengthening arguments in research, or providing direction for further research.

DISCUSSION

Iron Deficiency Anemia (IDA) is a condition in which the body lacks enough iron to produce hemoglobin, a protein in red blood cells that binds oxygen. Iron is needed by the body for optimal hemoglobin formation. When a person is iron deficient, hemoglobin production decreases, which causes a decrease in the number of healthy red blood cells, thereby reducing the blood's ability to transport oxygen throughout the body (Cappellini et al., 2022). Symptoms of IDA include fatigue, dizziness, pale skin, shortness of breath, and decreased endurance. The main causes of IDA are inadequate iron intake in the diet, blood loss (such as from heavy menstruation or digestive bleeding), or impaired absorption of iron in the intestine. Treatment for IDA generally involves iron supplementation and, if necessary, treatment of the underlying cause of the iron deficiency (Elstrott et al., 2020).

In pregnant women, IDA can affect the oxygen supply to the mother and fetus, which can cause various complications. Iron deficiency in pregnant women can interfere with fetal development, increase the risk of premature birth, low birth weight, and worsen the mother's health conditions, such as fatigue and decreased immunity (Raut & Hiwale, 2022).

Midwives have a very important role in the prevention and early detection of IDA in pregnant women. Through routine check-ups, midwives can identify signs of iron deficiency, as well as provide education on the importance of consuming nutritious foods rich in iron, such as red meat, green vegetables, and iron supplements if needed. Early detection and appropriate treatment can help prevent serious complications for pregnant women and fetuses (Petraglia & Dolmans, 2022).

If IDA not treated immediately, this condition can progress to more serious complications, such as preeclampsia, postpartum infection, and postpartum hemorrhage, all of which can endanger the mother's health and the delivery process (Chessa et al., 2020). For the fetus, IDA in pregnant women has a significant impact, increasing the risk of premature birth, low birth weight, and impaired brain development. Iron deficiency during pregnancy can affect the cognitive and motor development of the baby, which can continue into childhood. Therefore, it is important for pregnant women to get proper

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care and supervision to prevent IDA, in order to support the health of the mother and fetus during pregnancy and the labor process (Finkelstein et al., 2020).

To prevent IDA, the role of midwives is very important from the beginning of pregnancy. Midwives have the responsibility to ensure that pregnant women get sufficient information about the importance of a balanced diet, especially one rich in iron. Education about foods containing iron, such as red meat, green vegetables, and nuts, as well as ways to increase iron absorption, such as consuming vitamin C with foods containing iron, needs to be provided routinely. This will help pregnant women understand the steps to meet optimal iron needs during pregnancy (Gerontidis et al., 2022; Darmawati et al., 2020).

Midwives play an active role in routinely monitoring the nutritional condition of pregnant women and identifying signs of anemia early on. Regular blood tests need to be carried out to detect anemia at an early stage, so that it can be treated immediately before it becomes a more serious problem. By conducting careful monitoring and providing appropriate interventions, midwives can help prevent IDA and its related complications, and ensure that maternal and fetal health is maintained throughout pregnancy (Khomami et al., 2021).

In addition to nutrition education and monitoring, midwives are also responsible for providing iron supplementation in accordance with existing medical guidelines. In some cases, if pregnant women have difficulty meeting their iron needs from food, midwives must ensure that iron supplements are given correctly (Gusmaliza, 2022). The role of midwives in motivating and supporting pregnant women to comply with medical advice is very important so that pregnant women can avoid anemia. With this comprehensive approach, the role of midwives can help prevent IDA in pregnant women and ensure a healthy pregnancy for the mother and fetus (Arifah et al., 2023).

Midwives have an important role in maintaining the health of pregnant women, including routinely screening nutritional status, identifying risk factors for anemia, and providing education on the importance of an iron-rich diet. International guidelines, such as those issued by the World Health Organization (WHO), recommend midwives to actively monitor the hemoglobin levels of pregnant women. This is very important because pregnant women are vulnerable to chronic energy deficiency (CED) which can increase the risk of anemia (Khodijah & Rohaeni, 2023).

Anemia is a condition when the hemoglobin (Hb) level in the mother's blood is below 11 g%. During pregnancy, anemia is diagnosed if the Hb level is below 11 g% in the first and third trimester, or less than 10.5 g% in the second trimester. This condition requires special attention as anemia can have

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a negative impact on maternal and fetal health, including the risk of premature birth and low birth weight (Garzon et al., 2020).

The International Federation of Gynecology and Obstetrics (FIGO) also underscores the importance of treating anemia in pregnant women as part of maternal healthcare (Petraglia et al., 2024). FIGO recommends a holistic approach, including regular iron supplementation and increased intake of nutritious foods as preventive measures. In addition, FIGO emphasizes the importance of integrating anemia screening in antenatal visits conducted by midwives, with the aim of detecting anemia as early as possible and providing appropriate interventions (Oyelese et al., 2024).

The WHO and FIGO guidelines provide complementary guidance on the management of anemia during pregnancy. While WHO focuses more on monitoring hemoglobin levels and early detection, FIGO adds the importance of a multidimensional approach, such as strengthening nutrition education and involving midwives in the provision of iron supplements. By combining these two guidelines, midwives can provide more comprehensive services to prevent and effectively manage anemia in pregnant women (Melamed et al., 2021).

In many developing countries, where IDA is more prevalent, midwives hold a critical responsibility in screening and prevention. Global research indicates that midwives' involvement in maternal and child health programs effectively decreases anemia rates through early interventions and enhanced monitoring (Rahman et al., 2022). Screening for IDA during antenatal care, a routine task for midwives, serves as a key preventive approach to detect anemia early and reduce the risk of subsequent complications (Rahat & Kamani, 2021).

International evidence also shows that community-based approaches involving midwives in community education and nutritional health counseling are very effective in reducing the prevalence of IDA. By empowering midwives through adequate training on anemia management, they can provide better services to pregnant women and their families. This shows that the role of midwives is not only limited to the medical field, but also in increasing community awareness and preventing IDA in the long term. early stage and reducing the risk of further complications.

CONCLUSION

Based on the results of the study, it was found that the role of midwives in supporting the prevention and screening of Iron Deficiency Anemia (IDA) is very important, because they are often the primary health care providers during pregnancy and childbirth. By learning from international guidelines

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and practices, midwives can improve their understanding of effective screening techniques and IDA prevention strategies. Evidence-based practices, including early identification of individuals at risk, promoting iron supplementation, and educating pregnant women, are key components of their role. Midwives, through direct contact with pregnant women, are well positioned to implement these practices, improving maternal and fetal health outcomes and contributing to the overall reduction in MMR prevalence.

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