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Women and anemia: Hormonal cycles, pregnancy, and prevention.

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Introduction

Anemia, a condition marked by a deficiency of red blood cells or hemoglobin, affects millions of women worldwide. While anemia can impact anyone, women are uniquely vulnerable due to biological factors such as menstruation, pregnancy, and hormonal fluctuations. Understanding the interplay between these factors and anemia is essential for effective prevention and management. Anemia occurs when the body lacks enough healthy red blood cells to carry adequate oxygen to tissues. The most common type is iron deficiency anemia (IDA), which results from insufficient iron—a key component of hemoglobin. Symptoms include fatigue, weakness, pale skin, shortness of breath, and dizziness [1].

Menstruation is a major contributor to anemia in women, particularly those with heavy menstrual bleeding (menorrhagia). Each menstrual cycle results in blood loss, and over time, this can deplete iron stores, especially if dietary intake is inadequate. Women with menorrhagia may lose more than 80 mL of blood per cycle, significantly increasing their risk of IDA. Hormonal imbalances, such as elevated estrogen or progesterone fluctuations, can exacerbate bleeding and iron loss [2].

Tracking menstrual patterns and seeking medical advice for unusually heavy or prolonged periods is crucial. Ferritin testing can help assess iron stores and guide treatment. Pregnancy is a time of increased iron demand. The body needs more iron to support fetal development, placental growth, and expanded maternal blood volume. Iron requirements nearly double during pregnancy, especially in the second and third trimesters [3].

Organizations like FIGO (International Federation of Gynecology and Obstetrics) advocate for routine screening and improved nutrition across the life course. Addressing anemia is not just a medical issue—it's a social and economic imperative. Improving absorption and reducing side effects. Identifying hereditary anemia risks. Using apps to track menstrual cycles and anemia symptoms. Empowering women through education and access to care. Anemia in women is a multifaceted issue shaped by hormonal cycles, reproductive health, and nutrition. By understanding the unique risks women face and implementing targeted prevention strategies, we can reduce the burden of anemia and improve health outcomes across generations. Empowering women with knowledge and access to care is the cornerstone of effective anemia prevention. Up to 50% of pregnant women are iron deficient, even in high-income countries. Anemia during pregnancy is linked to complications such as preterm birth, low birth weight, and postpartum hemorrhage. Postpartum anemia is also common due to blood loss during delivery and continued iron demands during breastfeeding. Routine screening and supplementation during and after pregnancy are essential. Beyond menstruation and pregnancy, several other factors increase anemia risk in women: Some contraceptives reduce menstrual bleeding and may lower anemia risk, while others can exacerbate it [4].

Low intake of iron-rich foods, vitamin B12, and folate can impair red blood cell production. Limited access to nutritious food and healthcare increases vulnerability, especially in low-income settings. Diseases like celiac disease, inflammatory bowel disease, and kidney disorders can impair iron absorption or increase loss. Early detection is key

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to preventing complications. Common diagnostic tools include: Measures hemoglobin and hematocrit levels [5].

Conclusion

Women with symptoms or risk factors should undergo routine screening, especially during pregnancy or if experiencing heavy menstrual bleeding. Ferrous sulfate or ferrous gluconate are commonly prescribed. Used when oral supplements are ineffective or poorly tolerated. Incorporating iron-rich foods like red meat, leafy greens, legumes, and fortified cereals. For megaloblastic anemia. Treating chronic diseases or hormonal imbalances. According to the World Health Organization (WHO), anemia affects over 30% of women of reproductive age globally. It contributes to maternal mortality, impaired cognitive development in children, and reduced productivity. Despite its prevalence, progress toward reducing anemia has been slow, with only 10% of countries on track to meet global targets.

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