



IRON DEFICIENCY ANEMIA IN REPRODUCTIVE-AGED WOMEN AND ITS ASSOCIATION WITH GYNECOLOGICAL DISORDERS

Tillayeva Zarina Zafarbekovna

zarina_tillyayeva@tues.uz

<https://orcid.org/0009-0000-9394-5326>

Allamurodov Yo'ldosh Ulug'bekovich

Odiljonov Ozodbek Odiljonovich

Odiljonnorkulov0@gmail.com

<https://orcid.org/0009-0000-4932-4354>

Termez University of Economics and Service

Faculty of Medicine

ABSTRACT

Iron deficiency anemia (IDA) remains one of the most prevalent nutritional and hematological disorders worldwide, particularly among women of reproductive age. This population is uniquely vulnerable due to physiological demands such as menstruation, pregnancy, and lactation. Moreover, various gynecological conditions—including abnormal uterine bleeding, uterine fibroids, endometriosis, and polycystic ovary syndrome—significantly contribute to iron loss and impaired iron metabolism. This article aims to explore the prevalence of IDA in reproductive-aged women and its relationship with gynecological disorders. A comprehensive review of clinical and epidemiological data is presented, highlighting diagnostic approaches, pathophysiological mechanisms, and management strategies. The findings emphasize the importance of early detection and integrated gynecological and hematological care.

Keywords: iron deficiency anemia, reproductive age, gynecology, uterine bleeding, fibroids, endometriosis

INTRODUCTION

Iron deficiency anemia (IDA) is a global public health issue affecting approximately 30% of the world's population, with women of reproductive age being disproportionately affected. According to the World Health Organization, anemia affects nearly 40% of women aged 15–49 years globally.

The pathogenesis of IDA involves a mismatch between iron intake, absorption, and loss. In women, menstrual blood loss is a primary contributor. However, gynecological disorders often exacerbate this condition. Abnormal uterine bleeding (AUB), uterine fibroids (leiomyomas), and endometriosis are among the leading causes of chronic iron loss.

Understanding the link between gynecological disorders and IDA is essential for improving patient outcomes. This study aims to provide an in-depth analysis of the prevalence, mechanisms, and clinical implications of IDA in reproductive-aged women.

MATERIALS AND METHODS

This study is based on a narrative review of scientific literature indexed in databases such as PubMed, Scopus, and Web of Science.

Inclusion Criteria:

- Studies published between 2010 and 2024
- Focus on women aged 15–49 years
- Articles addressing IDA and gynecological conditions

Data Extraction:

Data regarding prevalence, etiology, diagnostic criteria, and treatment outcomes were collected and analyzed.

Diagnostic Criteria:



IDA was defined according to WHO standards:

- Hemoglobin (Hb) < 12 g/dL
- Serum ferritin < 15 µg/L

RESULTS

1. Prevalence of IDA in Reproductive-Aged Women

IDA prevalence varies by region but remains consistently high in developing countries.

Studies indicate:

- Global prevalence: 30–50%
- Central Asia: ~40%
- Pregnant women: up to 60%

2. Gynecological Disorders Associated with IDA

a. Abnormal Uterine Bleeding (AUB)

AUB is the leading cause of IDA in reproductive-aged women. Chronic excessive bleeding leads to progressive depletion of iron stores.

b. Uterine Fibroids (Leiomyomas)

Fibroids increase menstrual blood loss and may cause severe anemia. Women with large or multiple fibroids often present with Hb levels below 10 g/dL.



Menorrhagia symptoms



Excessive and prolonged bleeding



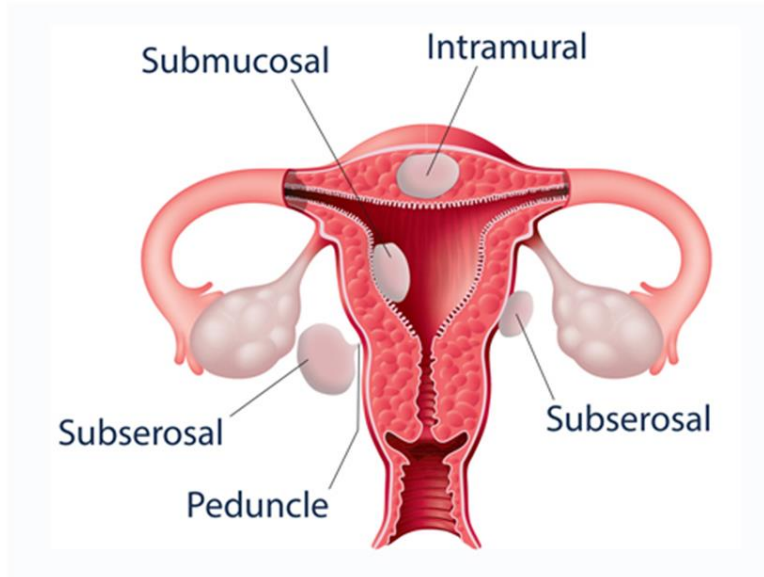
Backache



Large blood clots



Anaemia symptoms



c. Endometriosis

Endometriosis contributes indirectly to IDA through chronic inflammation and irregular bleeding patterns.

d. Polycystic Ovary Syndrome (PCOS)

Although PCOS is typically associated with oligomenorrhea, some patients experience irregular heavy bleeding, contributing to anemia.

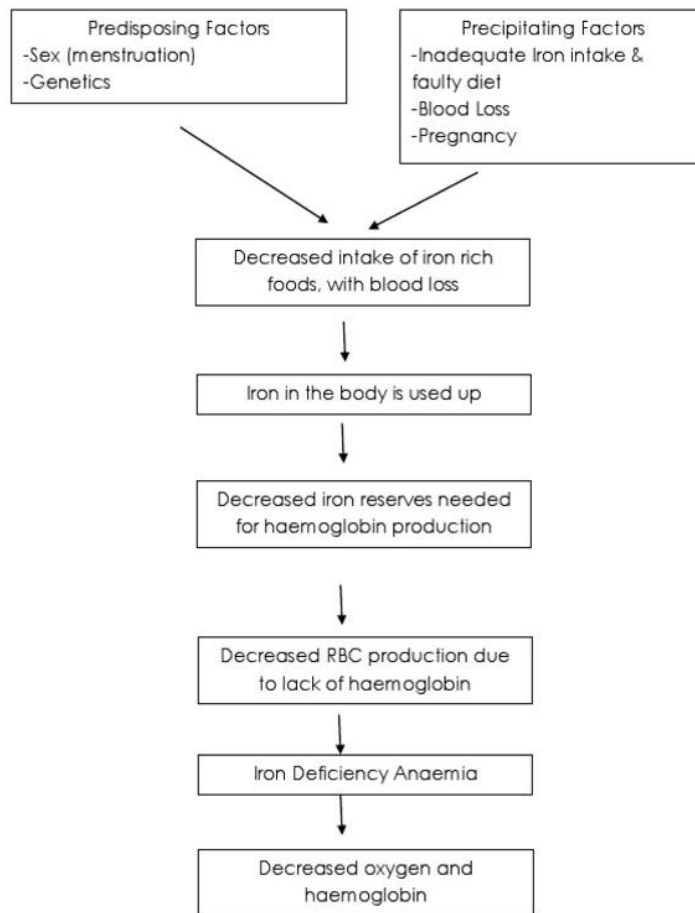
3. Pathophysiology

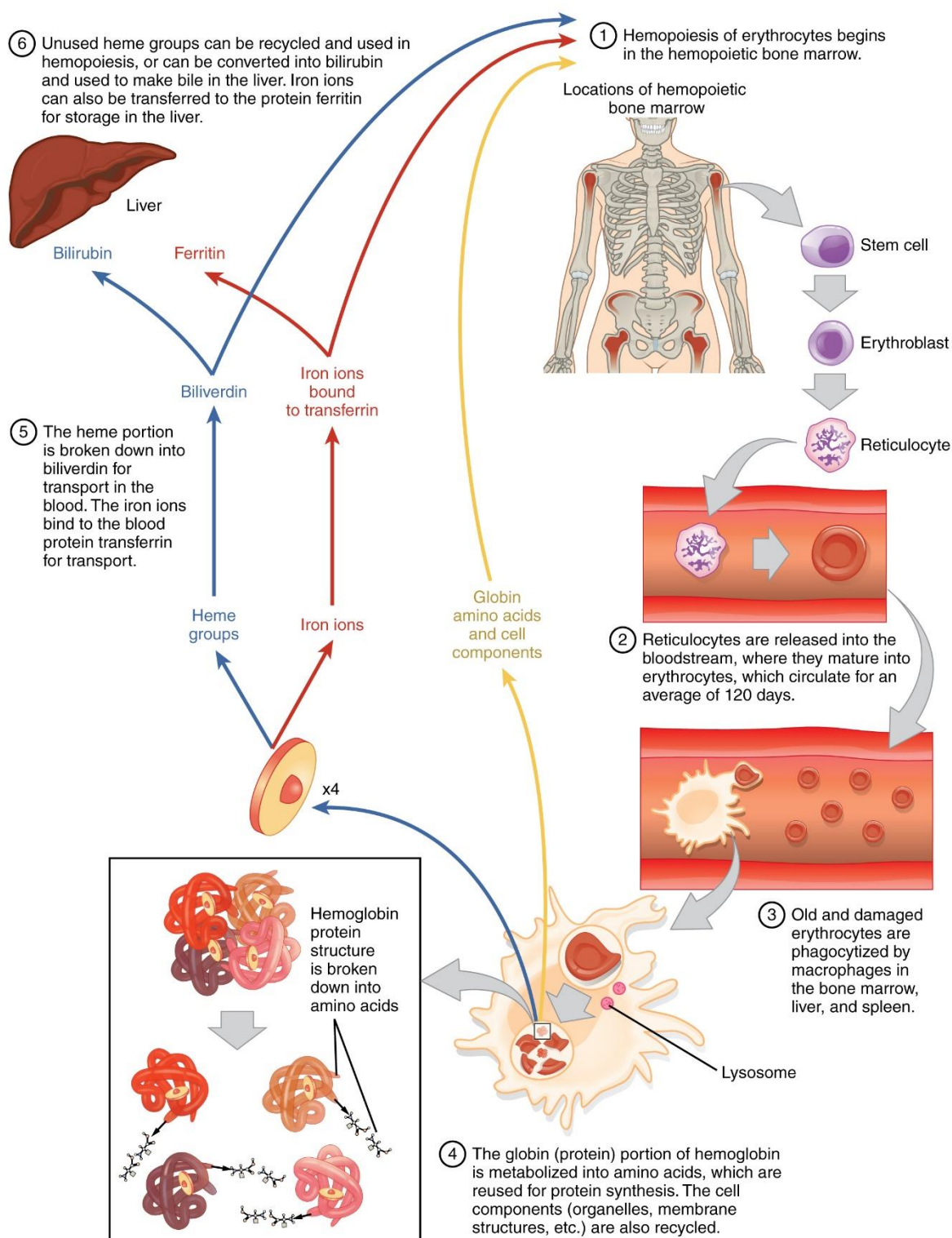
The development of IDA involves several mechanisms:

- Chronic blood loss → depletion of iron stores
- Reduced ferritin levels → impaired hemoglobin synthesis
- Hypoxia → compensatory physiological responses



Iron Deficiency Anemia Schematic Diagram





4. Clinical Manifestations

Common symptoms include:

- Fatigue and weakness
- Pallor
- Shortness of breath
- Dizziness

Severe cases may lead to:

- Tachycardia
- Reduced cognitive function



- Pregnancy complications

DISCUSSION

The relationship between IDA and gynecological disorders is bidirectional and complex. Gynecological conditions often lead to chronic blood loss, while anemia itself can exacerbate menstrual irregularities.

Early diagnosis is crucial. Laboratory tests such as serum ferritin, transferrin saturation, and complete blood count (CBC) are essential tools.

Management strategies include:

- Oral or intravenous iron therapy
- Hormonal treatment for AUB
- Surgical interventions (e.g., myomectomy, hysterectomy)

Integrated care involving gynecologists and hematologists is recommended.

CONCLUSION

Iron deficiency anemia is highly prevalent among reproductive-aged women and is strongly associated with gynecological disorders. Early detection and comprehensive management are essential to reduce morbidity and improve quality of life. Public health strategies should focus on screening, education, and access to treatment.

REFERENCES

1. World Health Organization (2021). *Global Anaemia Estimates*. WHO Database.
2. Camaschella, C. (2015). Iron-deficiency anemia. *New England Journal of Medicine*. (Indexed: PubMed, Scopus)
3. Munro MG et al. (2018). The FIGO classification of causes of abnormal uterine bleeding. *International Journal of Gynecology & Obstetrics*. (Scopus indexed)
4. Fraser IS et al. (2015). AUB guidelines. *Fertility and Sterility*. (PubMed indexed)
5. Bulun SE. (2019). Endometriosis. *New England Journal of Medicine*.
6. De Sanctis V et al. (2017). Iron deficiency in gynecology. *Acta Bio Medica*.
7. Peuranpää P et al. (2014). Heavy menstrual bleeding and anemia. *Human Reproduction*.
8. NICE Guidelines (2020). Heavy menstrual bleeding management. (UK database)
9. ACOG (2021). Practice Bulletin on anemia. (American College of Obstetricians and Gynecologists)
10. Short MW, Domagalski JE. (2013). Iron deficiency anemia: evaluation and management. *American Family Physician*