Iron Deficiency Anemia- Topic of the Month

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Anemia Data for MN WIC

Anemia in young children can cause growth and developmental delays. WIC plays a critical role in preventing, identifying, and resolving anemia by providing thorough dietary assessments and tailored nutrition counseling that focuses on improving overall dietary quality and iron absorption.

According to the Child Anemia in Minnesota WIC Fact Sheet, 2019, anemia in children has been increasing, reaching 14.4% in 2018. The good news is that in 2017, 38% of identified anemia cases were resolved within six months, and another 20% within 6+ months. Sadly, there continues to be significant health disparities in our Black/African American populations.

For details on child anemia rates for specific areas of MN, refer to the WIC Child Anemia Maps.

Nutrition Assessment

A thorough nutrition assessment will help identify possible causes for low hemoglobin values and contributing factors to Iron Deficiency Anemia. Assessing the *overall diet quality* is also important because other nutrients play a role in iron metabolism and contribute to red blood cell formation. These include zinc, copper, and vitamins B6 and B12.

Following are some things to consider when completing an assessment.

For 1–5-year-olds, consider:

- **Is the toddler or child "picky"**? Eats lots of "junk food", avoids eating meat or only eats processed meats like hotdogs, limited variety of foods.
- **How much milk is being consumed**? Is milk consumption > 24 oz, is the child weaned from the bottle, is milk replacing other foods, does the parent know how much milk is appropriate.
- **Is the parent a vegetarian/vegan?** Is the toddler fed meats, what non-meat sources of iron do they eat?
- **Does the family have food insecurity?** This can contribute to Iron Deficiency Anemia. A referral may be needed.
- **Does the child drink large amounts of sweetened beverages?** Can impact overall diet intake and quality.
- **Has a vitamin with iron been recommended by the health care provider?** Do they have them, do they take them, and if so, how often.
- **Have lead levels been tested?** Are they within an acceptable range?

- **Growth pattern?**
- **Behavioral concerns?**
- **Medications or health concerns?**

The assessment will help you to identify diet and/or behavioral factors which could later guide the focus for nutrition counseling and referrals (if needed).

Risk Code 201 - Low Hematocrit/Low Hemoglobin is assigned when the hemoglobin (hgb) or hematocrit concentration falls below the 95% confidence interval for healthy, well-nourished individuals of the same age, sex, and stage of pregnancy.

Child Values by Status

Status	Age	Hct. %	Hgb., Grams
Infant	5-12 months	33.0	11.0
Child	12-24 months	32.9	11.0
Child	24-60 months	33.0	11.1

Anemia Counseling Tips:

Once a nutrition assessment has been completed, utilize PCS Counseling Skills to open a conversation about anemia, taking into consideration the parent's knowledge, interest, and motivation to explore this topic.

Counseling Tips:

- **Explore:** What does the participant already know about anemia?
- **Offer:** Information about anemia based on the participant's interest and knowledge. Keep it simple. For parents of young children, share facts that may motivate change, like anemia can:
  - Make a child tired and cranky.
  - Lower the ability to fight off infections, causing the child to get sick more often.
  - Affect the ability to concentrate and learn.
- **Explore:** What they think about the information provided (listen for change talk, and motivation to resolve the anemia).
- **Offer:** Education based on the nutrition assessment and considering what the participant already knows and would like to learn about anemia. Concentrate on easy, doable tips to increase iron intake and absorption as well as overall diet quality. This might include talking about:
  - **Food's high in iron**. Point out WIC foods that are high in iron and discuss other foods that are good iron sources. Heme iron (the type found in animal products) such as red meat, fish and chicken is much better absorbed by the body, compared to non-heme

iron (the type in plants). Small quantities of meat in the diet can make a large contribution to important nutrients including iron, if accepted by the participant.

- **Explore**: What high iron foods the participant typically eats, and those they might consider trying, or eating more often. (Eating More: IRON)
- **Tips for increasing non-heme iron absorption**: Iron containing food + vitamin C food combos. Offer simple doable tips such as eating WIC cereal as a snack with a small glass of WIC juice or a citrus fruit or eating a bean burrito with tomatoes for lunch.
- **Minimizing foods that interfere with iron absorption.** If the assessment identified excess intake of foods that may adversely affect iron absorption such as coffee, tea, and milk; **explore** whether the participant might be opened to decreasing the quantity consumed and/or consuming these between meals.
- **Overcoming barriers to taking iron supplements**. Often multivitamins or iron supplements are recommended by health care providers. WIC can serve an important role in helping participants work through the barriers that may exist to taking the supplements consistently.
  - **Explore:**
    - **Hesitations to giving child a supplement**
      - Perceived side effects, such as constipation or increased appetite.
      - Avoiding ingredients that may be in a tablet, such as gelatin, gluten, or dyes.
      - "Baby doesn't like it", such as with iron drops.
      - Confusion in choosing an over-the-counter multi-vitamin with iron (*most gummy vitamins do not contain iron*).
      - Cost (may be covered by insurance, with a prescription).
  - **Ideas for remembering to give the child their iron supplement**
    - Place it in a visible place, *but inaccessible to toddlers* (can be poisonous).
    - Set a recurring alarm on their phone.

WIC Training Resources

- For more information on Iron Deficiency Anemia and its effect on growth and development view the Prevent Iron Deficiency Anemia Module**.**
- For a complete list of anemia resources, reports and data, and more information; visit the Anemia Resources page.
- For participant information and guidance, share the Eating More: IRON nutrition education card.

Additional Resources

Iron- National Institute of Health (NIH) Factsheet

Clinical Report—Diagnosis and Prevention of Iron Deficiency and Iron-Deficiency Anemia in Infants and Young Children (0–3 Years of Age)- American Academy of Pediatrics (AAP)

Anemia in Children and Teens: Parents FAQs- Healthychildren.org; AAP

Recommendations to Prevent and Control Iron Deficiency Anemia- Center for Disease Control and Prevention (CDC)

References- Complete Listing of Hyperlinks:

Child Anemia in Minnesota WIC Fact Sheet, 2019 (https://www.health.state.mn.us/docs/people/wic/localagency/reports/wtstatus/info/2019childanemia.pdf)

WIC Child Anemia Maps (https://www.health.state.mn.us/people/wic/localagency/reports/anemia/mapschildren.html)

201 - Low Hematocrit/Low Hemoglobin (https://www.health.state.mn.us/people/wic/localagency/riskcodes/201.html)

PCS Counseling Skills (https://www.health.state.mn.us/people/wic/localagency/training/pcs/skills/counseling.html)

Eating More: IRON (https://www.health.state.mn.us/docs/people/wic/nutrition/english/geniron.pdf)

Prevent Iron Deficiency Anemia Module (https://www.health.state.mn.us/training/cfh/wic/nutrition/nepresources/preventanemia/index.html)

Anemia Resources (https://www.health.state.mn.us/people/wic/localagency/anemia.html)

Iron (https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/)

Clinical Report—Diagnosis and Prevention of Iron Deficiency and Iron-Deficiency Anemia in Infants and Young Children (0–3 Years of Age) (https://www.cdc.gov/breastfeeding/pdf/aap-clinical-report-diagnosis-and-prevention-of-iron-2010.pdf)

Anemia in Children and Teens: Parents FAQs (https://www.healthychildren.org/English/health-issues/conditions/chronic/Pages/Anemia-and-Your-Child.aspx?_ga=2.103475784.970902375.1671140095-229876160.1661443892&_gl=1*1van28o*_ga*MjI5ODc2MTYwLjE2NjE0NDM4OTI.*_ga_FD9D3XZVQQ*MTY3MTE0MDA5NS45LjEuMTY3MTE0MDI3My4wLjAuMA..)

Recommendations to Prevent and Control Iron Deficiency Anemia (https://www.cdc.gov/mmwr/preview/mmwrhtml/00051880.htm)

Minnesota Department of Health - WIC Program 85 E 7th Place, PO BOX 64882, ST PAUL MN 55164-0882; 1-800-657-3942, health.wic@state.mn.us, www.health.state.mn.us; To obtain this information in a different format, call: 1-800-657-3942

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