Prenatal Vitamins - Topic of the Month

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A healthy diet is the ideal way to get adequate vitamins and minerals, but increased nutrient needs during pregnancy makes it very difficult to get enough of some key nutrients. Most OB/GYN doctors will recommend a prenatal vitamin (PNV) during pregnancy to assure consistent intake of key nutrients throughout the pregnancy. This memo will cover some important information and provide staff tips to discussing PNV intake with WIC participants.

How are PNV different from other vitamins?

Prenatal vitamins usually contain higher levels of folic acid and iron than other adult vitamins. Unfortunately, there are no nutrient requirements in order for a vitamin to be labeled as a PNV, and nutrient content will vary widely from brand to brand.

PNVs typically come in a pill, gelatin capsule, or chewable gummy form. Gummy vitamins have become quite popular, but are usually more expensive, and often do not contain iron and some other key nutrients needed during pregnancy. Read the Gummy Prenatal Vitamins Topic of the Month for more information.

What should pregnant women look for in a PNV?

The vitamin aisle offers so many choices that participants may be overwhelmed. It may be even more confusing for someone who may not speak or read English well. WIC can help by sharing the information in this memo and the Prenatal Vitamins education card at WIC appointments.

Below are nutrients the participant should look to see that their PNV contains:

Key Recommended Nutrients:

- Folic Acid—400 mcg
- Iron—27 mg
- Iodine—150 mcg

Other Important Nutrients:

- Vitamin D
- Calcium
- DHA
- Zinc
- Vitamin C
- Vitamin A
- Vitamin E
- Copper
- B Vitamins

A prenatal vitamin that includes **Folic Acid, Iron, and Iodine**, will likely contain adequate amounts of ***most*** other nutrients listed.

Next, we will take a deeper look at the key recommended nutrients.

Folic acid during pregnancy

Folic acid is the synthetic form of folate that is used in supplements and to fortify foods. Folic acid has been shown to help prevent neural tube defects, which develop in the first 28 days after conception, before many women know they are pregnant. Because about half of all pregnancies are unplanned, it's recommended that any woman who could get pregnant take 400 mcg of folic acid daily, starting before conception and continuing throughout pregnancy.

The Recommended Dietary Allowance (RDA) for folate during pregnancy is 600 mcg/day. Since it can be difficult to consistently get enough food folate from the diet, public health guidelines recommend a daily folic acid supplement for all women capable of becoming pregnant.

A woman who has already had a baby with a neural tube defect should talk to her health care provider about whether she might need to take a different dose of folic acid. Studies have shown that taking a larger dose (up to 4,000 mcg) at least one month before and during the first trimester may be beneficial for those women.

Foods containing folate include green leafy vegetables, nuts, beans, citrus fruits and orange juice. Food folate can be greatly reduced by processing and cooking. Folic acid may be found in some fortified foods, including many WIC breakfast cereals and enriched breads, pasta and corn masa products.

Iron during pregnancy

Pregnant women are at particular risk of iron deficiency due to their increased iron needs. Early in pregnancy there is a 35% increase in the plasma volume, requiring more iron. Growth of the fetus, placenta, and other maternal tissues increases the demand for iron tenfold in the second and third trimesters to approximately 7.5 mg iron/day which may trigger physiologic anemia even in women with adequate iron stores. There is an association between low hemoglobin values and the risk of a premature birth and low birth weight. Anemia during pregnancy may also affect the iron stores in the infant.

The RDA for pregnant women is 27 mg of iron per day. The *Centers for Disease Control and Prevention* recommends iron supplementation for all pregnant women to prevent iron deficiency; however, pregnant women should seek guidance from a qualified health care provider before taking dietary supplements.

Heme iron is more bioavailable and better absorbed than non-heme iron. Heme iron rich foods include lean meats, poultry, eggs, and seafood. Non-heme iron sources include leafy greens, beans, nuts, dried fruits, and fortified breakfast cereal, pasta, and breads. Vitamin C has been found to enhance non-heme iron absorption in the body and aid in healing. Some Vitamin C rich foods include oranges, kiwi, strawberries, broccoli, tomato, green or red peppers, spinach, kale, and sweet potato.

Postpartum iron needs

In the postpartum period, including while chest/breastfeeding, it is generally recommended to return to the multivitamin supplement taken prior to pregnancy. An additional 300 mg of iron is needed to replenish iron stores after delivery to ensure a woman starts her next pregnancy with adequate iron stores. Iron requirements are also increased during lactation. Replenishment of iron stores is a very important component of inter-conception nutrition and is the reason that postpartum women are highly encouraged to focus on healthy eating. A healthy balanced diet is the ideal way to get the adequate vitamins and minerals our body needs throughout the day.

In some situations, a participant may have specific increased nutrient needs. For example, if the participant has a medical condition, is following a culturally specific diet, experiencing a severe loss of appetite, or chest/breastfeeding multiples. In addition, those following a vegan or vegetarian diet, may require supplementation of certain key vitamins and minerals, such as vitamin B12. Participants should seek guidance from a healthcare provider if they have questions regarding postpartum supplementation.

Iodine during pregnancy

The *American Thyroid Association* and the *National Research Council* recommend iodine supplementation for all pregnant and lactating individuals. This recommendation stems from a shift away from iodized salt to things like sea salt or kosher salt. Additionally, salt added to processed foods is not iodized. These shifts have resulted in a less consistent intake of iodine for some pregnant women. Unfortunately, not all prenatal formulations contain iodine.

Iodine sufficiency during pregnancy is extremely important for proper fetal neurodevelopment. During early pregnancy, the fetus depends entirely on maternal iodine intake for fetal thyroid gland development. Iodine needs increase during pregnancy and lactation.

The RDA for iodine is 220 mcg/day for pregnant women. A prenatal supplement (during pregnancy) or a multivitamin (while breastfeeding) with 150 mcg of iodine will help meet needs.

The recommendations caution an excess of iodine as it may lead to fetal goiter and potential developmental delay. Participants are advised to stay within the RDA for iodine intake.

Sources of iodine include iodized table salt, canned tuna and pink salmon, dairy, and eggs.

More isn't necessarily better!

Pregnant women should not take individual supplements in addition to PNVs unless specifically instructed to do so by their health care provider. High levels of some vitamins and minerals keep others from being absorbed and over-consumption of some vitamins and minerals may also be harmful to the fetus.

Are prenatal vitamins covered by insurance?

Medical Assistance and some private insurance plans will cover the cost of PNVs with a prescription. Some pregnant participants wait for insurance eligibility determination before seeking prenatal care and may not see their provider until after their first trimester. Early enrollment in WIC provides opportunities to have conversations about healthy eating and starting an over the counter prenatal or multi-vitamin if possible.

What factors might contribute to higher risk of nutrient deficiencies during pregnancy?

Review the following risk factors identified below. Some will require a high-risk care plan and may also present the need to include more frequent WIC visits during the pregnancy. Offering referrals and encouraging regular communication with the participant's health care provider will help support pregnancy and postpartum needs.

(* Factors may or may not require a high-risk plan)

- Adolescents
- Pregnant with multiples (recommendation: folic acid=1000 ug/day, vitamin B-6=2 mg/day)
- Severe hyperemesis (morning sickness)
- History of neural-tube defects (higher folic acid recommended)
- When taking certain medications that can alter absorption
- Malabsorption syndromes and inflammatory bowel disease
- Bariatric surgery (deficient in vitamin D and B-12, possibly other nutrients)
- Eating disorders
- Substance use history, including tobacco use*
- Strict vegetarians and vegans (deficient in vitamin D and B-12) *
- Lactose intolerance*
- Limited income causing food insecurity or inconsistent dietary intake*

Talking with participants about prenatal vitamins

Generally, participants want to please their WIC staff person. If asked; *"Do you take a prenatal vitamin?"* the answer may be *"Yes"* even if they have concerns or challenges with actually doing so. Start with an open-ended question, such as, *"What vitamins and supplements are you taking?"* and explore further by asking questions like *"What things do you do to remember to take your prenatal vitamin?"* or *"What time of day do you take the vitamin?"* This may lead to additional conversation. You might also ask for "advice" that you can share with others about how they worked through any barriers.

Addressing barriers:

- If you sense resistance to taking a vitamin, you might ask *"What have you heard about prenatal vitamins?"* to better understand their hesitations.
  - Share the U.S. Food & Drug Administration (FDA) resource: Supplement Your Knowledge to inform participants further about using Dietary Supplements.
- If they haven't purchased/filled their prescription for the PNV yet, explore what barriers they are experiencing. Are they too expensive? Do they have insurance? Are they confused about which one to choose? Is transportation an issue?
  - Offer insurance information if needed.
  - Encourage them to contact their local pharmacy about delivery options.
  - They may ask their health care provider which PNV will best fit their needs.
- Find out where the participant shops and discuss options available at that store.
  - Consider visiting 2-3 stores near your WIC clinic to investigate which brands of prenatal vitamins they carry.
  - Explore which contain the recommended nutrients at a more affordable price.
  - You might also look for brands that do not contain gelatin, gluten, or dyes.

PNV alternatives

Gummy vitamins are a popular choice for many, but most do not contain iron and are often more expensive. Children's chewables (chewable pill form) with iron can be a good choice for women with nausea, until they are feeling better and can take a prenatal vitamin.

Some participants that are unable to tolerate a PNV early in pregnancy are told to take two children's vitamins. However, the RDAs for children are very similar to those for adults and the participant might get more of a nutrient than needed (excess vitamin A is a potential concern). Taking just one children's chewable complete vitamin with iron would be a general recommendation until a PNV can be tolerated.

It is always best to refer the participant back to their health care provider if they have questions or concerns about their prenatal needs or which prenatal vitamin is best for them.

Common concerns

The following chart gives examples of common concerns and how they might be discussed with a participant.

Things to consider:

- What common concerns would you add to the chart?
- How might you address additional concerns with participants?

- Practice saying the examples out loud and see how it feels/sounds. What other things might you say/share?

"Common Participant Concerns with PNVs"

Common Concerns with PNV	Examples of an Affirmation or a Reflection	Examples of Exploring or Asking Permission	Potential information that could be shared
"The prenatal vitamin makes me sick."	"That sounds awful." "So, it's hard to make yourself take your prenatal vitamin." "I've talked to other moms that have experienced that too."	"What have you tried that makes it better?" "Might I share some tricks that have worked for other moms?"	▪ Take vitamin at the time of day that you are feeling the best. (For many women, that is later in the evening.) ▪ Split the vitamin in half and take 2 different times. ▪ Ask your doctor about taking a children's chewable with iron until nausea is better. ▪ Take with a small amount of food, like crackers.
"The prenatal vitamin will make my baby grow too big."	"You want to have a healthy baby that is just the right size."	"Can I share a little bit about how vitamins help your baby to be healthy?"	▪ "Vitamins make sure that your body has the nutrition needed so your baby's brain, bones and muscles can develop correctly. They won't determine how much your baby weighs."
"Prenatal vitamins have gelatin (dye) (gluten)."	"You are worried there are things in the prenatal vitamin that you don't want to put in your body."	"Can I share some brands of vitamins that don't have gelatin?" "Is there anything else you would like to avoid in the vitamin?"	▪ Share list of vitamins that do not contain gelatin, but have the recommended supplementation of Folic acid, Iodine, and Iron.
"Vitamins are expensive."	"You have limited resources to buy vitamins, but you know that they are important to take to help make sure your baby is healthy"	"Can I share some less expensive brands of vitamins that are very good choices, that you can buy at the stores close to here?"	▪ Share list of vitamins at the store where the participant shops that meets the recommendations for Folic Acid, Iodine and Iron, with approximate costs.

Common Concerns with PNV	Examples of an Affirmation or a Reflection	Examples of Exploring or Asking Permission	Potential information that could be shared
"I can't remember to take the prenatal vitamins."	"You aren't used to taking a vitamin each day, and so you sometimes forget"	"What has worked for you in the past." "What might help you remember"	▪ Help participant walk through her day, and come up with a solution as to when she should take the vitamin or ways she can remember (phone alarm etc.) ▪ Maybe talk about a weekly goal, rather than a goal of taking it "every day"
"Vitamins make me constipated."	"That's no fun, I am sorry you are experiencing that." "Constipation is something that many pregnant moms struggle with."	Constipation can be caused by the hormone changes during pregnancy. "Can I share some things that you might try that could help with constipation?"	Base recommendations on participant's nutrition assessment, as well as interest. Let participant choose what to concentrate on. Suggestions might include: ▪ Increase high fiber foods ▪ Increase fluid intake ▪ Increase exercise

Resources

Iron deficiency anaemia in pregnancy: A contemporary review (Obstetric Medicine. June 14, 2021)

Iodine Factsheet for Health Professionals (National Institute of Health. October 13, 2023)

Folate Factsheet for Health Professionals (National Institute of Health. November 30, 2022)

Iron Factsheet for Health Professionals (National Institute of Health. June 15, 2023)

Reference - Complete Listing of Hyperlinks:

Gummy Prenatal Vitamins
(https://www.health.state.mn.us/docs/people/wic/localagency/wedupdate/moyr/2020/topic/1007prenatals.pdf)

Prenatal Vitamins
(https://www.health.state.mn.us/docs/people/wic/nutrition/english/pgprenatalvits.pdf)

Supplement Your Knowledge (https://www.fda.gov/food/information-consumers-using-dietary-supplements/supplement-your-knowledge)

Iron deficiency anaemia in pregnancy: A contemporary review (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8358243/)

Iodine Factsheet for Health Professionals (https://ods.od.nih.gov/factsheets/Iodine-HealthProfessional/)

Folate Factsheet for Health Professionals (https://ods.od.nih.gov/factsheets/Folate-HealthProfessional/)

Iron Factsheet for Health Professionals (https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/)

Minnesota Department of Health - WIC Program, 625 Robert St N, PO BOX 64975, ST PAUL MN 55164-0975; 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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