



**FOLIC ACID &
ITS HEALTH BENEFITS**
A NUTRITION IN-SERVICE FOR STAFF

“Good health is not something we can buy. However, it
can be an extremely valuable savings account.”

~ Anne Wilson Schaefer



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PUBLIC HEALTH
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HEALTHIER WASHINGTON

A lesson on the health benefits of folic acid
and to inspire WIC clients & staff to include
this important nutrient daily.

- Who:** Participants: WIC Staff, range of 2-15 participants with a varying degree of maternal, infant and child nutrition knowledge and WIC experience.
Leader: WIC RD/Nutritionist
- Why:** Optimum folic acid intake has many health benefits especially as related to pregnancy. By understanding dietary sources, WIC staff can explore folic acid intake with WIC clients.
- When:** A monthly in-service that is designed to be 30 to 60 minutes - depending on the discussion and the number of staff attending.
- Where:** The session was designed for a WIC classroom, meeting room or large office depending on the size of the group.
- What:** In this session staff:
- List the health benefits of folic acid.
 - Examine folic acid levels in food.
 - Identify folic acid fortification efforts.
 - Propose Explore, Offer, Explore questions to talk to clients about the benefits of folic acid.
 - Brainstorm strategies for a “Folic Acid Friendly” WIC clinic.
- Materials Needed:** Copies of:
- Dietary Sources of Folic Acid, attached (one for each participant) (Part 2)
 - Folic Acid & Its Health Benefits In-service *Participant Copy*
 - Folic Acid & Its Health Benefits In-service *Feedback Form*

Background Please review before leading group:

Reading for Leaders: • [Washington State WIC Manual, Volume 1, Chapter 14 - Nutrition Risk Criteria - Inadequate Vitamin/Mineral Supplementation;](#)

Breastfeeding and Postpartum women: Taking less than 400mcg of folic acid from fortified foods and/or supplements daily.

For further review and consult:

- CDC Folic Acid web site.
<http://www.cdc.gov/ncbddd/folicacid/index.html>
- Folic acid campaign and reference materials are available from:
<http://www.cdc.gov/ncbddd/folicacid/freematerials.html>
- University of Albany Folic Acid brochure:
<http://www.albany.edu/sph/coned/fabrochure.pdf>

- How:**
- Schedule in-service.
 - Review background information.
 - Review in-service *Leader Copy (italicized print indicates leader speaking)*.
 - Prepare materials needed.
 - Have fun!

Introduction / Warm-Up**2 minutes**

Welcome! For this month's nutrition training I am the lead. I encourage all of you to participate. Together we will explore our topic and discover strategies to support our WIC clients.

In this session staff:

- List the health benefits of folic acid.
- Examine folic acid levels in food.
- Identify folic acid fortification efforts.
- Propose Explore, Offer, Explore questions to talk to clients about the benefits of folic acid.
- Brainstorm strategies for a "Folic Acid Friendly" WIC clinic.

Folate is a B vitamin found in small amounts in a wide variety of foods. We use the terms "folic acid" and "folate" interchangeably, yet they mean different things. Folic acid is the synthetic form used in vitamin supplements and fortified foods. Folate occurs naturally and is found in foods, such as dark green leafy vegetables, strawberries and orange juice.

Break up into pairs. Tell your partner what you have heard about folic acid.

Wait one minute.

Who would like to share what they told their partner?

Part 1**5 minutes****Health benefits**

Listen to this brief description of the health benefits of folic acid. Underline what is new to you.

Prenatal

The critical importance of folic acid in pregnancy is now recognized world-wide. The prevention of a number of birth defects (including spina bifida, anencephaly, certain patterns of cleft lip and limb-shortening disorders) relies on folic acid adequacy in the very early weeks of pregnancy. A woman's body uses folic acid to make healthy new cells for her baby. Scientists are not sure how folic acid works to prevent birth defects, but they do know that it is needed for making the cells that will form a baby's brain, spine, organs, skin, and bones. Some studies also indicate low blood folate levels are associated with increased risk of miscarriage.

Heart health

Folate (along with Riboflavin, B-6, and B-12) is needed to help prevent a build-up of homocysteine in the blood. Homocysteine is the amino acid that has emerged as a new risk factor for atherosclerosis and the heart attacks and strokes that result.

Cancer prevention

In some studies, folate adequacy has also been shown to play a role in certain cancers such as colon cancer and breast cancer.

Who would like to share what they underlined?

Part 2**5 minutes****Sources of folic acid**

Please follow along as I read the following information about folic acid recommendations.

In 1992, to reduce the number of cases of spina bifida and other neural tube defects (NTDs) the US Public Health Service recommended that all women capable of becoming pregnant consume 400 mcg of folic acid daily. Three approaches were identified: 1) improve dietary habits, 2) fortify foods with folic acid, and 3) use dietary supplements containing folic acid.

Dietary Sources

Not all foods in a food group are equally good sources of folic acid. This makes it difficult for people to distinguish what are good sources.

Distribute the hand out: "Dietary Sources of Folic Acid."

Using the handout, review the foods listed. We will take about 3 minutes for this activity.

Wait 3 minutes and call time.

What surprises you about the category the foods are in?

Part 3**3 minutes****Fortification of folic acid**

Follow along as we read the information from the Center for Disease Control about fortification with folic acid.

The FDA ordered the mandatory fortification of folic acid of US cereal grain and flour products beginning in 1998. Initially, the rate of both spina bifida and anencephaly declined after folic acid fortification. Additionally, serum and red blood cell levels of folate increased in women of childbearing age. However, from 2000 to 2004 serum and red blood cell folate levels declined by 16 and 8% respectively. The reasons for this decline are not know, but the popularity of low-carbohydrate diets might have lowered intake of fortified foods. 2006 neural tube defect rates (6 new cases of spina bifida or another NTD per 10,000) do not meet the 2010 Healthy People objective of 3 new cases of

neural tube defects per 10,000 live births.

Part 4	10 minutes
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What questions do you have?

Practice using Explore, Offer, Explore

What Washington State WIC Nutrition Risk pertains to folic acid intake?

Review: Inadequate Vitamin/Mineral Supplementation; Breastfeeding and Postpartum women: Taking less than 400 mcg of folic acid from fortified foods and/or supplements daily.

Who would like to read the following information about folic acid supplements?

Despite fortification, not all women of childbearing age receive adequate levels of folic acid from their diets. A 2005 March of Dimes study indicated a decrease in the proportion of childbearing age women who reported taking folic acid in dietary supplements daily from 40% in 2004 to 33% in 2005. Increasing the number of women who take dietary supplements containing 400 mcg of folic acid daily remains an important component of neural tube defect prevention.

Because NTD's often occur before women know they are pregnant, it is recommended that all women of capable of becoming pregnant consume a multivitamin containing 400 mcg of folic acid daily. It is important that breastfeeding and non-breastfeeding women participating in the WIC program know about folic acid and foods that contain folate.

Pair up with a new person.

Now let's think about how we might discuss this topic with breastfeeding or postpartum clients.

Use Explore, Offer, Explore.

Explore...Explore what the client knows, or would like to know

Offer...Offer information in a neutral, nonjudgmental manner

Explore...Explore about the client's thoughts, feelings, and reactions

You may wish to start with one of the following

What have you heard about folic acid?

When it comes to taking a multivitamin, what are the things that encourage you to remember to take it?

Now that you are no longer pregnant, what things might encourage you to continue taking a multi-vitamin?

In your pairs, brainstorm how Explore, Offer, Explore may be a useful technique for discussing folic acid with breastfeeding or postpartum clients.

We will hear some of your ideas.

Allow time for discussion.

How is this different from just “telling” a client about folic acid?

Part 5**5 minutes****A “Folic Acid Friendly” clinic**

Listen to this description of a “Folic Acid Friendly” office from the University of Albany. The concept of a “Folic Acid Friendly” clinical setting is inspired by the campaign for “Baby Friendly” hospitals carried out to promote breastfeeding as the preferred method of infant feeding to mothers and hospital staff in delivery wards. The concept includes classic elements of behavioral change, awareness, education, and concrete changes. A “Folic Acid Friendly” office would be a setting in which non-pregnant women patients or clients of childbearing age would be exposed to folic acid education materials and would receive counseling and/or information about the need to consume multivitamins or folic acid supplements on a daily basis in order to prevent birth defects and promote cardiovascular health.

Divide up into groups of two or three. Brainstorm ideas that would make our WIC clinic “Folic Acid Friendly.” We will hear your responses. You have 5 minutes.

Allow 5 minutes for discussion. Call group back.

Who would like to share their ideas?

What strategies does our office want to commit to doing?

Closing**1 minute**

Thanks for participating today. We heard some great discussion and ideas that will help us to better serve our WIC clients.

Please fill out a Feedback Form – your input is greatly appreciated.

Collect Feedback Forms.

Make any notes you have as a leader.

Review participants’ Feedback Forms.

Document this training.

A lesson on the health benefits of folic acid and to inspire WIC clients & staff to include this important nutrient daily.

Learning Objectives

By the end of this session you will have:

- Listed the health benefits of folic acid.
- Examined folic acid levels in food.
- Identified folic acid fortification efforts.
- Proposed Explore, Offer, Explore questions to talk to clients about the benefits of folic acid.
- Brainstormed strategies for a “Folic Acid Friendly” WIC clinic.

Folic acid is a B vitamin that is found in small amounts in a wide variety of foods. Folate is a general term for the various forms of the B vitamin. The parent form is folic acid.

Break up into pairs. Tell your partner what you have heard about folic acid.

We will share your responses.

Part 1

Health benefits of folic acid

Listen to this brief description of the health benefits of folic acid. Underline what is new to you.

Prenatal

The critical importance of folic acid in pregnancy is now recognized world-wide. The prevention of a number of birth defects (including spina bifida, anencephaly, certain patterns of cleft lip and limb-shortening disorders) relies on folic acid adequacy in the very early weeks of pregnancy. A woman’s body uses folic acid to make healthy new cells for her baby. Scientists are not sure how folic acid works to prevent birth defects, but they do know that it is needed for making the cells that will form a baby’s brain, spine, organs, skin, and bones. Some studies also indicate low blood folate levels are associated with increased risk of miscarriage.

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result.

Cancer prevention

In some studies folate adequacy has also been shown to play a role in certain cancers such as colon cancer and breast cancer.

Part 2

Sources of folic acid

In 1992, to reduce the number of cases of spina bifida and other neural tube defects (NTDs) the US Public Health Service recommended that all women capable of becoming pregnant consume 400 mcg of folic acid daily. Three approaches were identified: 1) improve dietary habits, 2) fortify foods with folic acid, and 3) use dietary supplements containing folic acid.

Dietary Sources

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Part 3

Fortification of folic acid

Follow along as we read the information about fortification with folic acid.

The FDA ordered the mandatory fortification of folic acid of US cereal grain and flour products beginning in 1998. Initially, the rate of both spina bifida and anencephaly declined after folic acid fortification. Additionally, serum and red blood cell levels of folate increased in women of childbearing age. However, from 2000 to 2004 serum and red blood cell folate levels declined by 16 and 8% respectively. The reasons for this decline are not known, but the popularity of low-carbohydrate diets might have lowered intake of fortified foods. 2006 neural tube defect rates (6 new cases of spina bifida or another NTD per 10,000) do not meet the 2010 Healthy People objective of 3 new cases of neural tube defects per 10,000 live births.

What questions do you have?

Part 4**Practice using Explore, Offer, Explore**

What Washington State WIC Nutrition Risk pertains to folic acid intake?

Who would like to read the following information about folic acid supplements?

Despite fortification, not all women of childbearing age receive adequate levels of folic acid from their diets. A 2005 March of Dimes study indicated a decrease in the proportion of childbearing age women who reported taking folic acid in dietary supplements daily from 40% in 2004 to 33% in 2005. Increasing the number of women who take dietary supplements containing 400 mcg of folic acid daily remains an important component of neural tube defect prevention.

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Offer...Offer information in a neutral, nonjudgmental manner.

Explore...Explore about the client's thoughts, feelings, and reactions.

You may wish to start with one of the following:

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In your pairs, brainstorm how Explore, Offer, Explore may be a useful technique for discussing folic acid with breastfeeding or postpartum clients.

How is this different from just "telling" a client about folic acid?

Part 5**A “Folic Acid Friendly” clinic**

Listen to this description of a “Folic Acid Friendly” office.

The concept of a “Folic Acid Friendly” clinical setting is inspired by the campaign for “Baby Friendly” hospitals carried out to promote breastfeeding as the preferred method of infant feeding to mothers and hospital staff in delivery wards. The concept includes classic elements of behavioral change, awareness, education, and concrete changes. A “Folic Acid Friendly” office would be a setting in which non-pregnant women patients or clients of childbearing age would be exposed to folic acid education materials and would receive counseling and/or information about the need to consume multivitamins or folic acid supplements on a daily basis in order to prevent birth defects and promote cardiovascular health.

Divide up into groups of two or three. Brainstorm ideas that would make our WIC clinic “Folic Acid Friendly.” We will hear your responses. You have 5 minutes.

Closing

Thanks for participating today.

Please fill out a Feedback Form – your input is greatly appreciated!

Dietary Sources of Folic Acid

Excellent sources (400 mcg)

- Multigrain Cheerios - 400 mcg (1 cup 100% fortified)
- Wheat Chex - 400 mcg (3/4 cup 100% fortified)
- Kellogg's Special K - 400 mcg (1 cup 100% fortified)

Good sources (100 – 300 mcg)

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| <ul style="list-style-type: none"> • Asparagus - 131 mcg (½ cup cooked) • Spinach - 131 mcg (½ cup cooked) • Lentils - 180 mcg (½ cup cooked) | <ul style="list-style-type: none"> • Life - 107 mcg (¾ cup) • Post Grape Nuts - 100 mcg (1/2 cup) • Post Grape Nut Flakes - 100 mcg (¾ cup) | <ul style="list-style-type: none"> • Kix - 100 mcg (1 ¼ cup) • Cream of Wheat - 149 mcg (1 cup) • Kellogg's Corn Flakes - 100 mcg (1 cup) |
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Moderate sources (35 – 90 mcg)

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|---|---|--|
| <ul style="list-style-type: none"> • Peas - 47mcg (½ cup frozen, cooked) • Romaine lettuce - 38 mcg (½ cup raw) • Corn - 38 mcg (1/2 cup cooked) | <ul style="list-style-type: none"> • Orange juice - 75 mcg (1 cup) • Broccoli - 39 mcg (½ cup cooked) • Squash - 38 mcg (½ cup cooked, summer) | <ul style="list-style-type: none"> • Peanuts - 41 mcg (1 oz dry roasted) • Orange - 47 mcg (1 medium) • Fortified white bread - 38 mcg (1 slice)) |
|---|---|--|

Low sources (10 – 35 mcg)

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|--|--|---|
| <ul style="list-style-type: none"> • Cantaloupe - 27 mcg (1 cup) • Strawberries - 26 mcg (1 cup) • Pears - 12 mcg (1 medium) • Sweet potato - 27 mcg (1 cup canned, mashed) • Carrots - 11 mcg (½ cup cooked) | <ul style="list-style-type: none"> • Grapefruit - 13 mcg (½ medium) • Potatoes - 19 mcg (baked without skin) • Cabbage - 15 (½ cup green, cooked) | <ul style="list-style-type: none"> • Bananas - 22 mcg (1 medium) • Raspberries - 32 mcg (1 cup) • Tomato - 16 mcg (½ cup red, cooked) • Oatmeal - 20 mcg (½ cup cooked) |
|--|--|---|

