Module C: Prenatal Nutrition and Breastfeeding Objectives
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Prenatal Nutrition Overview

Introduction

This module will help staff assess the pregnant woman’s nutritional status and provide individual education.

Learning Objectives

After completing this module staff will be able to:

• Describe the general nutritional needs of pregnant women.
• Describe common nutrition-related problems of pregnant women and identify solutions to these problems.
• Describe the effects of substance abuse on the mother and child.
• Identify indicators of nutritional needs to determine if a pregnant woman is eligible for WIC.
• Case study situation, assess prenatal growth, assess biochemical and clinical status, and evaluate the diet of a pregnant woman using the nutrition questionnaire.
• Role-play situation, interview a pregnant woman, assess her nutritional status, prioritize her needs, and provide individual education.
Nutritional Needs of Pregnant Women

Importance of Pregnant Woman’s Diet

What a woman eats during her pregnancy may affect:

- Fetal development
- Delivery
- The woman’s comfort and emotions

Fetal Development

The food choices a woman makes during her pregnancy will greatly affect her baby’s health. Women with poor diets are much more likely to have children who:

- Are stillborn
- Are premature
- Have birth defects
- Have a low birth weight (<5 lbs 8 oz)

In the first trimester, a lack of the nutrient folate may result in birth defects. In the third trimester, lack of protein and calories can cause problems with brain development.

Pre-Term Delivery

Women with healthy diets are less likely to deliver prematurely than women with poor diets.

Comfort of the Pregnant Woman

Fatigue, morning sickness, constipation, leg cramps, and other pregnancy discomforts can be reduced or prevented with a good diet.

A good diet may also help the pregnant woman’s emotional state. It can help moderate mood swings.

Nutrition Recommendations

The information on the next page lists general nutrition recommendations for pregnant women.

Continue on next page
Nutritional Needs of Pregnant Women (continued)

**General Nutrition Recommendations for Pregnant Women**

Pregnancy increases the need for energy (calories) and most nutrients, especially iron, calcium, and folic acid (folate).

Eat a healthy, varied, and adequate diet to meet prenatal needs.

Gain weight as recommended based on pre-pregnancy weight and trimester. Take daily supplements as recommended by the health care provider.

Avoid:

- Sodium-restricted diets (unless prescribed by their physician)
- Diuretics (these cause the body to urinate more often)
- Harmful substances (such as alcohol, tobacco, and drugs)
- Excessive fat, salt, caffeine, sugar, and artificial sweeteners
- Homemade remedies, herbs, special diets (restrictive or weight loss diets)
- Uncooked or undercooked meat or fish.
- Raw sprouts
- Unpasteurized milk or foods containing unpasteurized milk
- Unpasteurized fruit or vegetable juices
- Soft cheese such as brie, feta, camembert, blue-veined cheeses & mexican-cheese such as queso fresco or panela, unless labeled as made with pasteurized milk
- Hot dogs, luncheon meats (cold cuts), fermented & dry sausage & other deli style meat or poultry products unless reheated until steaming hot.
Nutritional Needs of Pregnant Women (continued)

**Recommended Diet**
A pregnant woman’s diet should have the nutrients and calories needed to support the changes in her body and to help the fetus grow and development.

**Recommended Food Group Servings**
Use the *MyPlate for Pregnant Moms* table on the following pages to guide you when talking to a pregnant participant.

Pregnant women whose caloric needs are low or moderate (such as women who are not physically active) should eat at the low end of the range of servings.

Those women whose caloric needs are high (such as women who are physically active) should select additional servings from the food groups.

Pregnant teens have slightly greater nutritional needs than women. They should select four choices from milk products group to obtain the necessary calcium needed for bone growth.

*Continue on next page*
## Objectives

The Daily Meal Plan for pregnant moms shows slightly more amounts of food during the 2nd and 3rd trimesters because you have changing nutritional needs. This is a general Plan. You may need more or less than the Plan.*

<table>
<thead>
<tr>
<th>Food Group</th>
<th>1st Trimester</th>
<th>2nd and 3rd Trimesters</th>
<th>What counts as 1 cup or 1 ounce?</th>
<th>Remember to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables</td>
<td></td>
<td></td>
<td>1 cup raw or cooked vegetables or 100% juice</td>
<td>Make half your plate fruits and vegetables. Choose a variety. Eat more dark-green and red and orange vegetables and beans and peas.</td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
<td>2 cups raw leafy vegetables</td>
<td></td>
</tr>
<tr>
<td>Grains</td>
<td></td>
<td></td>
<td>1 cup fruit or 100% juice 1/2 cup dried fruit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 slice bread</td>
<td>Make at least half your grains whole. Choose whole instead of refined grains.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 ounce ready-to-eat cereal 1/2 cup cooked pasta, rice, or cereal</td>
<td></td>
</tr>
<tr>
<td>Dairy</td>
<td></td>
<td></td>
<td>1 cup milk</td>
<td>Replace higher fat milk and milk products with fat-free or low-fat options.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 ounces yogurt</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1/2 ounces natural cheese 2 ounces processed cheese</td>
<td></td>
</tr>
<tr>
<td>Protein Foods</td>
<td></td>
<td></td>
<td>1 ounce lean meat, poultry, or seafood</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1/4 cup cooked beans 1/2 ounce nuts or 1 egg 1 tablespoon peanut butter</td>
<td>Vary your protein food choices. Include seafood, beans, peas, and unsalted nuts and seeds.</td>
</tr>
</tbody>
</table>

*If you are not gaining weight or gaining too slowly, you may need to eat a little more from each food group. If you are gaining weight too fast, you may need to cut back by decreasing the amount of “empty calories” you are eating. Talk to your doctor about any concerns about your diet and the amount of weight gain during pregnancy.

* In each food group, choose foods that are low in “empty calories”—solid fats and added sugars.

* Seafood can have important health benefits for you and your unborn child. Eat 8 to 12 ounces of cooked seafood each week, but no more than 6 ounces of white (albacore) tuna each week. Do not eat tilefish, shark, swordfish, and king mackerel — they are high in mercury.

* Pregnant women and women who may become pregnant should talk to their doctor about taking a daily vitamin containing folic acid before and during pregnancy, in addition to eating a healthy diet.

* Pregnant women and women who may be pregnant should not drink alcohol. Any amount of alcohol during pregnancy could cause problems for your baby.

---

Get a Daily Plan for Moms designed just for you.
Go to [www.choosemyplate.gov](http://www.choosemyplate.gov) for your Plan and for more information.
Click on "Pregnant & Breastfeeding Women."

Food safety is very important when you are pregnant.
For information, go to [www.foodsafety.gov](http://www.foodsafety.gov)

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Comfort Tips

Morning Sickness (Nausea and vomiting)
- Find foods that agree with you such as: crackers, dry toast, dry cereal, watermelon.
- Eat small, frequent meals.
- Drink liquids between meals, not with solid foods.
- Smell lemons or drink lemonade.
- Get up slowly from sitting or lying down.

Heartburn is a burning feeling at the top of your stomach.
- Eat small frequent meals.
- Eat slowly.
- If eating a late meal try to eat 2 to 3 hours before going to bed.
- Rest or sleep in a semi-sitting position.
- Avoiding foods that bother you (spicy or fatty foods, caffeine drinks, sodas, etc.)
- Wear loose fitting clothing.

Constipation
- Eat high fiber foods: bran, whole wheat products, fresh fruits and vegetables, stewed fruits, prune juice, dried beans and peas.
- Drink at least 2 to 3 quarts of fluids a day: water, 100% juice, milk, soup, etc.
- Get some exercise daily, keeping fit and active.

Good Choices

Alcohol
- Pregnant women and women who may become pregnant should not drink alcohol.
- Any amount of alcohol during pregnancy could cause problems for your baby.

Herbal Teas
- Certain herbal teas can be very harmful during pregnancy.
- Some herbal teas do not list all of the herbs in the tea, so only use herbal teas that you know are safe.
- Ask your health care provider if it is safe to use herbal teas.

Food Safety

Avoid
- Albacore tuna
- Unpasteurized milk and juices
- Deli meats and salads, lunch meat
- Raw sprouts
- Raw eggs (undercooked eggs - raw cookie dough)
- Raw fish such as sushi
- Soft cheese - brie, feta
- Make sure foods are cooked thoroughly.
- Wash all fruits and vegetables before use.
- 2 hour rule.
- Discard any foods that can spoil if left out at room temperature for longer than 2 hours.
- Wash all fruits and vegetables before use.
- Check expiration dates.
- Food safety is to prevent:
  - Listeria
  - Toxoplasma
  - E. coli
  - Salmonella
  - Mercury

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PO Box 202951
Helena MT  59620-2951
1-800-433-4298

U.S. Department of Agriculture. Center for Nutrition Policy and Promotion
www.choosemyplate.gov

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1,000 copies of this public document were published at an estimated cost of $0.20 per copy, for a total cost of $200.00, which includes $200.00 for printing and $0.00 for distribution.

Form #207
Revised 7/11
**Nutritional Needs of Pregnant Women (continued)**

**Important Nutrient Needs for Pregnant Women**

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>Calcium is necessary to replenish the mom’s calcium stores. Babies need calcium to develop healthy teeth and bones.</td>
</tr>
<tr>
<td>Iron</td>
<td>A woman’s blood volume doubles over the course of her pregnancy to help deliver oxygen and nutrients to the fetus.</td>
</tr>
<tr>
<td></td>
<td>• Needs increase significantly.</td>
</tr>
<tr>
<td></td>
<td>• Difficult to meet increased needs by diet alone, a supplement is often required.</td>
</tr>
<tr>
<td>Folic Acid (Folate)</td>
<td>Folic acid is a B vitamin associated with healthy babies.</td>
</tr>
<tr>
<td></td>
<td>• Inadequate folic acid may increase the risk of neural tube birth defects such as spina bifida and anencephaly.</td>
</tr>
<tr>
<td>Protein</td>
<td>Protein supports the production of new cells, enzymes, and hormones. As the baby grows, it needs protein to develop hair, skin, nails, and organs. Protein also helps the mom with fluid balance, preventing swelling and maintaining a healthy blood pressure.</td>
</tr>
</tbody>
</table>
Nutritional Needs of Pregnant Women (continued)

Adequate Weight Gain

Adequate weight gain is closely related to a good pregnancy outcome.

The Amount of weight a pregnant woman should gain will depend on:

- Her weight before she became pregnant.
- The number of fetuses she is carrying (twins, triplets, etc.).
- Her health status (diabetes, high blood pressure).

Total Weight Gain Recommendations

WIC recommends women gain between 25 to 35 pounds if she was within normal weight range prior to the pregnancy.

The chart below shows recommended total weight gain ranges for pregnant women by pre-pregnancy body mass index (BMI) and pre-pregnancy weight category.

<table>
<thead>
<tr>
<th>Pre-Pregnancy BMI</th>
<th>Pre-Pregnancy Weight Category</th>
<th>Total Weight Gain Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 18.5</td>
<td>Underweight</td>
<td>28-40 lbs.</td>
</tr>
<tr>
<td>18.5-24.9</td>
<td>Normal Weight</td>
<td>25-35 lbs.</td>
</tr>
<tr>
<td>25.0-29.9</td>
<td>Overweight</td>
<td>15-25 lbs.</td>
</tr>
<tr>
<td>≥30.0</td>
<td>Obese</td>
<td>11-20 lbs.</td>
</tr>
</tbody>
</table>
Nutritional Needs of Pregnant Women (continued)

Monthly Weight Gain Recommendations  Women will gain weight at varied rates from the recommendations. A woman who has nausea and vomiting during the first 4 or 5 months of her pregnancy will most likely be challenged meeting the following recommendations.

If a woman has trouble gaining weight, she should at least maintain her weight.

The chart below shows recommended minimum monthly weight gains for the second and third trimesters by pre-pregnancy weight category for single fetus pregnancies.

<table>
<thead>
<tr>
<th>Pre-Pregnancy Weight</th>
<th>Minimum Monthly Weight Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>4 lbs.</td>
</tr>
<tr>
<td>Normal Weight</td>
<td>2 lbs.</td>
</tr>
<tr>
<td>Overweight</td>
<td>2 lbs.</td>
</tr>
<tr>
<td>Obese</td>
<td>1 lb.</td>
</tr>
</tbody>
</table>

Where Do the Pounds Go? Why does a pregnant woman need to gain about 25-35 pounds for a 7 ½ pound baby?

The diagram on the next page shows how the pregnant woman and her fetus use this additional weight.
Nutritional Needs of Pregnant Women (continued)

Where the pounds go...

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www.babyyourbaby.org
Nutritional Needs of Pregnant Women (continued)

Not Enough Weight Gain  A baby whose mother does NOT gain enough weight during pregnancy is more likely to:

- Grow poorly in the uterus
- Be small for age
- Be born prematurely

Too Much Weight Gain  A baby whose mother gains too much weight during her pregnancy may have:

- A high birth weight
- A cesarean section delivery
- Birth trauma

A woman who gains too much weight during her pregnancy may have:

- Difficulty at delivery
- High Blood pressure
- Problems losing weight after the baby is born

Calories  Calories give the pregnant woman energy for her body to function. If the pregnant woman does not consume enough calories to meet the needs of pregnancy, her body will use its own protein stores for energy. This can harm the fetus because it needs protein for growth.

If the pregnant woman consumes too many calories she will gain too much weight and may have problems losing the weight after delivery.

The chart on the next page, gives guidelines on the number of additional calories needed above the woman’s usual dietary intake.
Nutritional Needs of Pregnant Women (continued)

Additional Calories Needed during Pregnancy

<table>
<thead>
<tr>
<th>Woman Who Is:</th>
<th>Additional Calories Needed Each Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight Expecting twins, triplets</td>
<td>400-500</td>
</tr>
<tr>
<td>Normal Weight</td>
<td>300*</td>
</tr>
<tr>
<td>Overweight or Obese</td>
<td>300</td>
</tr>
</tbody>
</table>

*A woman could get 300 calories by drinking a glass (8 oz) of 1% milk, eating a flour tortilla (6”) and a small banana.

Fluids

During pregnancy a woman needs more fluids.

Both mom and fetus need fluids. Extra fluids help the pregnant woman:

- Avoid constipation
- Reduce excessive swelling
- Help the body rid of waste products
- Reduce the risk for urinary tract infection

A pregnant woman should consume at least 8 cups of fluids a day. Healthy choices of fluids can include milk, juice, water, soup, and low-calorie beverages.

- Limit high sugar drinks such as sport drinks, soda, etc.
- Limit juice to one serving (6 oz) per day.

Pregnant women should limit the amount of caffeinated products they consume. Coffee, tea, cola-flavored sodas, and cocoa products are usually high in caffeine. Drinking large amounts of caffeinated products may lead to premature labor.
### Nutritional Needs of Pregnant Women (continued)

**Problems**

A pregnant woman may experience all or some of the following common problems.

- Anemia
- Constipation
- Heartburn
- Leg cramps
- Nausea, Vomiting
- Swelling
- Diabetes/gestational diabetes
- Difficulty sleeping

Learn more about these problems and their solutions to help pregnant participants identify solutions at wichealth.org and WIC webpage nutrition education materials.

**Chart of Problems & Solutions**

The chart on the following pages lists some common problems pregnant women may have and some possible solutions.

Refer the participant to the RD if a pregnant woman reports use of herbs, laxatives, homemade remedies, medications, or special diets not specifically approved by her doctor.

**Learning Activity**

Learning Activity 1: *Discussion of Pregnancy Issues*, found at the end of this module will help you learn more about some of the pregnancy issues at WIC.

*Continued on the next page*
### Common Problems & Solutions

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution(s)</th>
</tr>
</thead>
</table>
| **Anemia** (low iron levels in the blood) | Women need more iron when pregnant because their blood volume increases by 50%. The blood is needed for the baby and maternal tissues. Pregnant women may not be able to eat large amounts of iron rich foods during pregnancy due to nausea, vomiting, taste aversions or limited food availability.  
  - Ask if participants would like to talk to a Registered Dietitian if: \[ \text{Hgb} < 10 \text{g/dL or Hct} < 30\% \]  
  - Eat iron rich foods (such as meat, beans, and iron-fortified cereals) along with Vitamin C-rich foods (such as orange juice, tomatoes, and broccoli). Vitamin C helps the body absorb iron.  
  - Cook foods in cast-iron cookware.  
  - Many doctors will recommend iron supplements.  
    - Take iron supplements on an empty stomach with Vitamins C juice. If nausea or stomach pain occurs, eating some crackers can reduce these symptoms.  
    - Decrease intake of coffee and tea. Caffeine interferes with iron absorption.  
    - A side effect of iron supplements is constipation (see below). |
| **Constipation** (less often than usual or difficult bowel movements) may be due to:  
  - Being tired  
  - Medications  
  - Anxiety  
  - Inappropriate diet (low in fiber foods)  
  - Not enough fluids | Do NOT use laxatives unless advised by a doctor (some products can harm the fetus).  
  - Drink:  
    - Plenty of fluids to help keep the stool soft  
    - Small amounts of prune juice  
    - Hot or very cold liquids to bring on a bowel movement  
  - Eat high-fiber foods (such as bran cereals, whole-grains, dried fruits, fresh fruits and vegetables).  
  - Do not force bowel movements.  
  - Do NOT use mineral oil since it interferes with absorption of fat-soluble vitamins.  
  Continued on next page |
### Pregnancy-Related Problems & Solutions (*continued*)

#### Common Problems & Solutions

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution(s)</th>
</tr>
</thead>
</table>
| **Heartburn** (food and stomach acids backing into the lower esophagus) | Do NOT use medications unless advised by a doctor.  
Eat small, frequent meals.  
Drink fluids at least 30 minutes to an hour after meals.  
Avoid alcohol, coffee, tea, colas (consuming only decaffeinated cola or coffee).  
Avoid foods and beverages that cause gastrointestinal distress (carbonated drinks, chocolate, acidic foods like citrus fruits and juices, tomatoes, mustard, vinegar, processed meats, mint products, and spicy, highly seasoned, fried or fatty foods).  
Don’t smoke. It increases stomach acidity.  
Avoid bending or stooping after eating.  
Wait at least two hours after eating before lying down.  
Sleep propped up.  
Wear loose fitting clothing. |
| **Leg Cramps** | Get enough calcium by eating or drinking milk products.  
Get enough magnesium by eating whole grains, beans, dried fruits, nuts and seeds.  
Eat only the recommended servings of protein foods.  
Limit intake of processed foods and carbonated beverages.  
To increase blood flow in legs:  
- Do exercise (such as walking)  
- Stretch calf muscles and curl the toes  
- Take a warm bath  
- Place a hot water bottle or towel soaked in hot water over the cramped muscle |
### Pregnancy-Related Problems & Solutions (continued)

#### Common Problems & Solutions

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nausea/Vomiting</strong></td>
<td>Eat:</td>
</tr>
<tr>
<td></td>
<td>- Crackers, dry cereal or toast before getting out of bed in the morning</td>
</tr>
<tr>
<td></td>
<td>- Small, frequent meals</td>
</tr>
<tr>
<td></td>
<td>- A light bedtime snack</td>
</tr>
<tr>
<td></td>
<td>Avoid Fried, fatty, spicy, or strong smelling foods.</td>
</tr>
<tr>
<td></td>
<td>Drink fluids between meals instead of with meals.</td>
</tr>
<tr>
<td></td>
<td>Move slowly and avoid sudden movements.</td>
</tr>
<tr>
<td></td>
<td>Open windows for fresh air and to get rid of odors.</td>
</tr>
<tr>
<td><strong>Swelling</strong></td>
<td>Avoid standing for long periods of time.</td>
</tr>
<tr>
<td></td>
<td>Rest with legs elevated.</td>
</tr>
<tr>
<td></td>
<td>Lie on side.</td>
</tr>
<tr>
<td></td>
<td>Wear loose fitting clothing.</td>
</tr>
<tr>
<td></td>
<td>NEVER use diuretics or “water pills” because they can cause a dangerous imbalance in the body (unless prescribed by a physician).</td>
</tr>
<tr>
<td><strong>Pregnancy-Induced Hypertension</strong></td>
<td><strong>PIH</strong> is high blood pressure occurring during pregnancy</td>
</tr>
<tr>
<td></td>
<td>PIH symptoms include:</td>
</tr>
<tr>
<td></td>
<td>- A puffy face for more than 12 hours. Swelling in the hands.</td>
</tr>
<tr>
<td></td>
<td>- Headaches. Vision Problems. A rapid increase in weight gain.</td>
</tr>
<tr>
<td></td>
<td><strong>A woman with PIH should get immediate medical care.</strong></td>
</tr>
</tbody>
</table>

*Continued on the next page*
## Diabetes

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gestational Diabetes</strong></td>
<td></td>
</tr>
<tr>
<td>Women may be diagnosed with Gestational Diabetes Mellitus (GDM) if they have high blood sugar during their pregnancy.</td>
<td>Get regular prenatal care.</td>
</tr>
<tr>
<td><strong>Definition of Diabetes</strong></td>
<td></td>
</tr>
<tr>
<td>Diabetes is a condition where sugars are unable to enter the body’s cells due to insufficient insulin. Blood sugars remain high which can cause damage to the arteries including the heart and kidneys.</td>
<td>Refer to a Registered Dietitian or Medical Professional for a plan of care.</td>
</tr>
<tr>
<td>High Blood sugar during pregnancy results in above average infant weight. This can lead to complications during delivery for both the mother and infant. Following a diabetic diet during pregnancy to maintain normal blood sugars can help reduce or prevent complications. Some women with GDM will need to take medications to control blood sugars.</td>
<td>Follow medical provider’s advice and/or referrals.</td>
</tr>
<tr>
<td>All pregnant women are screened for GDM. Early prenatal care and intervention can prevent the complications. A history of GDM can lead to the onset of Type II Diabetes after women turns 40. For more information check out the following website. Gestational Diabetes- American Diabetes Association <a href="http://www.diabetes.org/diabetes-basics/gestational/">http://www.diabetes.org/diabetes-basics/gestational/</a></td>
<td>Follow up after delivery is important to determine if blood sugars have returned to normal. After Pregnancy, GDM usually goes away but may return with subsequent pregnancies. Treatment can include diet, oral medications, and insulin.</td>
</tr>
</tbody>
</table>
Substance Abuse

Definition

Substance abuse (or drug abuse) is the use of alcohol, tobacco, recreational drugs, or over-the-counter and prescription medications in a manner not medically or legally approved.

Substance Abuse During Pregnancy

Drug use during pregnancy can cause serious problems for the mother and fetus. A woman who uses harmful drugs during her pregnancy is more likely to give birth to an infant with:

- Low birth weight
- Developmental problems
- Birth defects
- Human immunodeficiency virus (HIV) (unsanitary needles)
- Hepatitis (unsanitary needles)
- Early death

The most common substance abused during pregnancy is tobacco.

The second most common substance abused during pregnancy is alcohol. Use of alcohol can have a negative impact on fetal development during all stages of pregnancy. WIC and the American Academy of Pediatrics recommend women consume NO alcohol during pregnancy.

Chart of Common Drugs

The chart on the next page lists effects for the following groups of drugs:

- Alcohol
- Inhalants
- Marijuana
- Narcotics: stimulants, depressants, hallucinogens
- Tobacco
### Substance Abuse (continued)

#### Effects of Some Common Substances Used During Pregnancy

<table>
<thead>
<tr>
<th>Drug Type &amp; Common Names</th>
<th>Effects</th>
</tr>
</thead>
</table>
| **Alcohol**              | **Problems for mother:** Impaired judgement (may result in abuse and neglect of child)  
Cancer, heart and liver damage  
Miscarriage  
**Problems for child:**  
Low birth weight  
Fetal Alcohol Syndrome (facial feature malformations, heart defects, deformities, poor growth, behavioral issues, miscarriage)  
Low IQ  
Developmental Delays |
| **Inhalants**            | **Problems for mother:**  
Miscarriage  
Still birth  
**Problems for child:**  
Low birth weight  
Premature birth  
Birth defects  
Delayed growth  
Developmental problems  
Addiction  
Early death  
Behavioral problems  
Heart, brain, liver damage |
| **Marijuana**            | **Problems for mother:**  
Miscarriage  
Still birth |
| **Narcotics:** Depressants Hallucinogens Stimulants | **Problems for child:**  
Premature birth  
Low birth weight  
Respiratory problems  
Premature death |
| **Tobacco**              | **Problems for mother:**  
Addiction  
Cancer, lung and heart disease  
Miscarriage  
Still birth  
**Problems for child:**  
Premature birth  
Low birth weight  
Respiratory problems  
Premature death |
Certification Procedure

**Nutrition Risk Determination**

The WIC State Plan (WSP) provides policy and procedures on charting “Nutrition Care Plans” for participants.

Please refer to WSP:

5.1 Eligibility Guidelines
   VI. Nutrition Eligibility Determination

5.2 Certification Procedures
   VI. Risk Codes: Nutrition Risk Code Table and High Risk Code Table.

**Learning Activity**

Learning Activity 2: Observations
Learning Activity 3: Case Studies
Learning Activity 4: Role Play

These learning activities, found at the end of this module will help you reinforce your learning about pregnancy issues at WIC.
Progress Check

1. Mark the following as “True or False”.
   ____ WIC recommends a gain of 25 to 35 pounds for normal weight pregnant woman.
   ____ All pregnant women gain weight exactly at the same rates.
   ____ A baby whose mother does NOT gain enough weight during pregnancy is more likely to grow poorly in the uterus, be small for gestational age, and/or be born prematurely.
   ____ A woman who gains too much weight during her pregnancy may have gestational diabetes, difficulty at delivery, high blood pressure, and/or problems losing weight after the baby is born.

2. The amount of weight a pregnant woman should gain is based on her ______________ weight.

3. Name 3 problems common to pregnant women.

   ____________________________
   ____________________________
   ____________________________

4. For each of the food groups listed in the chart below, write in the amount of recommended for a pregnant woman each day.

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Amount Per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breads, Cereals and Grains</td>
<td></td>
</tr>
<tr>
<td>Vegetables</td>
<td></td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
</tr>
<tr>
<td>Milk Products</td>
<td></td>
</tr>
<tr>
<td>Protein Foods</td>
<td></td>
</tr>
</tbody>
</table>

5. Complete the plate below with the recommend serving amounts for each meal based on the MyPlate for pregnancy.

![MyPlate for pregnancy](image)
6. Match the common pregnancy-related problem to a possible solution.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ Anemia</td>
<td>A. Avoid lying Down flat. Raise the head when sleeping</td>
</tr>
<tr>
<td>_____ Constipation</td>
<td>B. Eat Foods high in iron and Vitamin C</td>
</tr>
<tr>
<td>_____ Heartburn</td>
<td>C. Avoid standing for long periods of time</td>
</tr>
<tr>
<td>_____ Leg Cramps</td>
<td>D. Increased the amount of fiber in the diet</td>
</tr>
<tr>
<td>_____ Nausea</td>
<td>E. Keep the legs warm for good blood flow</td>
</tr>
<tr>
<td>_____ Swelling</td>
<td>F. Avoid brushing teeth right after waking up</td>
</tr>
</tbody>
</table>

7. List 2 effects of smoking during pregnancy.

8. List 2 effects of drinking alcohol during pregnancy.

9. Identify the following indicator of nutritional need for a pregnant woman. Write in “A” for anthropometric, “B” for biochemical, “C” for clinical, and “D” for dietary.

   ____ Diabetes
   ____ Low weight gain or weight loss during pregnancy
   ____ Smoking cigarettes
   ____ Congenital blood disorder (sickle cell anemia)
   ____ Low hemoglobin
   ____ Drinks whole milk
Learning Activities

The following activities are included and are recommended for interactive learning:

Learning Activity 1: Discussion of Pregnancy Issues

Learning Activity 2: Observations

Learning Activity 3: Case Studies Learning

Activity 4: Role Plays
Activity 1: Discussion of Pregnancy Issues

Learning Objectives
After completing this activity, staff will be familiar with some of the pregnancy issues seen at WIC.

Instructions
1. Ask your supervisor/mentor to arrange for you to spend some time, at least an hour, with one of your WIC coworkers.
2. Ask your coworker to discuss their experiences with pregnancy issues at WIC.
3. Ask the following questions about the pregnant participant:
   - What are the most commonly observed nutrition problems?
   - What are the most commonly observed indicators of nutritional risk?
   - What are some challenges you have experienced when assessing her nutritional status?
   - What are your recommendations to help new staff prepare for addressing her needs?
4. Write down your notes on the next page.
5. When you are finished, discuss your findings with your mentor/supervisor.
Activity 1: Discussion of Pregnancy Issues

Ask your coworker to discuss their experiences with pregnancy issues at WIC.

Notes:
What are your most commonly observed nutrition problems?

What are your most commonly observed risk factors for nutrition?

What are some challenges you have experienced when assessing the nutritional status of a pregnant participant?

What are your recommendations to help new staff prepare for addressing the pregnant participant’s needs?
Activity 2 Observations

Learning Objectives

After completing this activity, staff will be able to explain how to:

1. Have your mentor or supervisor arrange to observe several individual nutrition education sessions with a pregnant woman.
2. Observe your coworker as they:
   - Assess the woman’s needs/problems
   - Prioritize these needs/problems
   - Provide individual education
   - Use OARS techniques.
3. Write down your notes on the next page.
4. Discuss your observations with your mentor or supervisor.
Activity 2: Observations

Notes:
Activity 3: Case Studies

Learning Objectives

After completing this activity, staff will be able to assess a pregnant woman’s anthropometric, biochemical, clinical, and dietary status.

Instruction

1. Review each of the following five case studies.

2. Refer to page 23 of this training module to refer to the WSP documentation needed to identify the anthropometric, biochemical, and clinical and dietary risk codes.

3. Complete the form following each case study.

4. Identify any referrals or handouts to offer the participant.

5. Talk to your supervisor/mentor if you need additional help.

6. When you are finished, discuss your responses with your supervisor/mentor.
Activity 3: Case Studies

Case Study 1:

Rebecca is 26 years old. The following information is available about her:

Height is 5 feet 1 inch
Pre-pregnancy weight is 110 pounds
Current weight is 112 pounds
Last menstrual period was 2 months ago
Hemoglobin is 12.4
Smokes ½ pack (10 cigarettes)/day
Nutrition questions show she likes to eat sushi

Assessment:

Pre-pregnancy weight: □ Normal □ Overweight □ Underweight
Number of weeks pregnant:
Weight gain:
What are her anthropometric risks?
What are her biochemical risks?
What are her clinical risks?
What are her dietary risks?

Referrals/ Nutrition Education Handouts:
Activity 3: Case Studies

Case Study 2:

Cassandra is 16 years old. The following information is available about her:

- Height is 5 feet 7 inches
- Pre-pregnancy weight is 130 pounds
- Current weight is 137 pounds
- Last menstrual period was 2 months ago
- Hemoglobin 10.4
- Has bruises on her arm and says her boyfriend beat her
- Nutrition questions show she does not eat vegetables

Assessment:

- Pre-pregnancy weight:  □ Normal  □ Overweight  □ Underweight
- Number of weeks pregnant:
- Weight gain:
- What are her anthropometric risks?
- What are her biochemical risks?
- What are her clinical risks?
- What are her dietary risks?

Referrals/ Nutrition Education Handouts:
Activity 3: Case Studies

Case Study 3:

Rosario is 23 years old. The following information is available about her:

Height is 5 feet 9 inches
Pre-pregnancy weight is 140 pounds
Current weight is 143 pounds
Last menstrual period was 2 months ago and 1 week ago
Hemoglobin 12.6
She is temporarily living in a motel
Nutrition questions show she does not eat many whole grains

Assessment:

Pre-pregnancy weight:  □ Normal  □ Overweight  □ Underweight

Number of weeks pregnant:

Weight gain:

What are her anthropometric risks?
What are her biochemical risks?
What are her clinical risks?
What are her dietary risks?

Referrals/ Nutrition Education Handouts:
Activity 3: Case Studies

Case Study 4:

Xena is 30 years old. The following information is available about her:

Height is 5 feet 6 inches

Pre-pregnancy weight is 175 pounds

Current weight is 183 pounds

Last menstrual period was 21 weeks ago

Hemoglobin 10.2

She has not seen a doctor since she became pregnant

Nutrition questions show she drinks whole milk

Assessment:

Pre-pregnancy weight: ☐ Normal  ☐ Overweight  ☐ Underweight

Number of weeks pregnant:

Weight gain:

What are her anthropometric risks?

What are her biochemical risks?

What are her clinical risks?

What are her dietary risks?

Referrals/ Nutrition Education Handouts:
Activity 3: Case Studies

Case Study 5:

Lashonda is 21 years old. The following information is available about her:

Height is 5 feet 3 inches

Pre-pregnancy weight is 160 pounds

Current weight is 160 pounds

Last menstrual period was 2 months ago

Hemoglobin 12.4

She has a 7 month old infant son

Nutrition questions show she frequently eats and likes fried foods

Assessment:

Pre-pregnancy weight: □ Normal □ Overweight □ Underweight

Number of weeks pregnant:

Weight gain:

What are her anthropometric risks?

What are her biochemical risks?

What are her clinical risks?

What are her dietary risks?

Referrals/ Nutrition Education Handouts:
Activity 4: Role Plays

Learning Objectives

After completing this activity staff will be able to:

- Interview a pregnant woman.
- Assess her nutritional status.
- Prioritize her needs.
- Provide individual education.

Background

A role play is a scenario in which two or more people act out a “scene as though it is real life”. Props are not required but may be helpful.

Instructions

1. Ask your mentor, supervisor, or co-worker to role play any three of the five roles (A-E) described on the following page.

2. Using the information you have learned about prenatal nutrition, role play a WIC Nutrition Assistant counseling these three pregnant women.

   - Remember to promote breastfeeding in each session.

3. Mentor/supervisor/co-worker: Using the role plays as your guide, act out the role of the participant. Try to be as realistic as possible.

4. After each session, ask your co-worker to share their observations of your role play. Ask for feedback on your strengths as well as any areas for improvement.
### Activity 4: Role Plays

5 Participants

<table>
<thead>
<tr>
<th>Role Play</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Role Play A</strong></td>
<td>Debbie Coleman is 22 years old. She is 15 weeks pregnant. She is 4 foot, 11 inches tall and weighs 157 pounds. Her pre-pregnancy weight is 153 pounds. Her hgb 10.6 gm/dL. She smokes and averages about 20 cigs/day. Her nutrition questionnaire shows she eats very little fruit and no vegetables.</td>
</tr>
<tr>
<td><strong>Role Play B</strong></td>
<td>Grace Nguyen is 15 years old. She is 2 months pregnant. She is 5 foot, 5 inches tall and weighs 122 pounds. Her pre-pregnancy weight is 120 pounds. Her hgb is 11 g/dL. She lives in a homeless shelter. Her nutrition questionnaire shows she eats very few protein foods.</td>
</tr>
<tr>
<td><strong>Role Play C</strong></td>
<td>Tina Dickson is 24 years old. She is 21 weeks pregnant and has not gone to see her doctor. She is 5 foot, 11 inches tall and weighs 215 pounds. Her pre-pregnancy weight is 200 pounds. Her hgb is 12.8 gm/dL. Her nutrition questionnaire shows she eats very few whole grains.</td>
</tr>
<tr>
<td><strong>Role Play D</strong></td>
<td>Evita Juarez is 26 years old. She is 8 months pregnant. She is 5 foot, 4 inches tall and weighs 160 pounds. Her pre-pregnancy weight is 135 pounds. Her hgb is 10.2 gm/gL. Her nutrition questionnaire shows she drinks whole milk.</td>
</tr>
<tr>
<td><strong>Role Play E</strong></td>
<td>Tanya Wilson is 21 years old. She is 5 months pregnant. She is 6 feet tall and weighs 183 pounds. Per pre-pregnancy weight is 170 pounds. Her hemoglobin is 9.8 gm/dL. Her nutrition questionnaire shows she eats many high fat foods.</td>
</tr>
</tbody>
</table>
Progress Check Answers

Send completed progress check to State WIC Office attention Lacy Little. Fax: 444-0239, email: lalittle@mt.gov or mail Montana WIC, PO Box 202951, Helena, MT 59620

Activity Completion:

Send completed activities to State WIC Office attention Lacy Little. Fax: 444-0239, email: lalittle@mt.gov or mail Montana WIC, PO Box 202951, Helena, MT 59620
Breastfeeding

**Breastfeeding Promotion and Support**

Work to increase breastfeeding initiation and duration rates within the State of Montana.

Local Agencies are to provide a breastfeeding friendly work place.

Please refer to policy 7.1 of WSP.

**Breastfeeding Peer Counselor Program**

Provide peer-to-peer breastfeeding counseling to promote and support initiation and duration of breastfeeding among WIC participants.

Please refer to policy 7.2 of WSP.

**Breast Pump Issuance**

To ensure initiation or continued breastfeeding when mother and infant are separated.

Local agencies may provide a manual, single-user electric or a multi-user loaner electric breast pump to breastfeeding participants.

Please refer to policy 7.3 of WSP.
**Progress Check**

1. Name 3 benefits of breastfeeding:

   ____________________________________________
   ____________________________________________
   ____________________________________________

2. According to the American Academy of Pediatrics, breastfeeding_______________ is ideal for the _____________ after birth and should continue for at least one year.

3. True or False: Which of the following are reasons a woman should NOT breastfeed?
   
   _____ The breast hurts.
   _____ She has diagnosed HIV infection.
   _____ She works full-time
   _____ She is on chemotherapy.

4. Below are 3 statements a woman might make regarding her concerns about breastfeeding. For each, write a response to assure her these concerns will not prevent successful breastfeeding.
   
a. “Breastfeeding will tie me down”

   ____________________________________________

   b. “I doubt I can make enough milk”

   ____________________________________________

   c. “It will be embarrassing to breastfeed in public”

   ____________________________________________
Learning Activities

The following activities are included and are recommended for interactive learning:

**Learning Activity 1:** Breastfeeding Views

**Learning Activity 2:** Breastfeeding Misconceptions
Activity 1: Breastfeeding Views

Learning Objectives
After completing this activity staff will be aware of some of the breastfeeding view of the local community.

Instructions
1. Ask five different people to answer the question on the next page. Ask family, friends, teachers, WIC participants, but do NOT ask WIC staff.

2. Discuss with your mentor or supervisor what you learned.
### Activity 1: Breastfeeding Views

**Questions:** What are your thoughts about breastfeeding? (Ask person to explain their views)

<table>
<thead>
<tr>
<th>Identify Person (i.e. participant, friend, family)</th>
<th>Response/Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
</tbody>
</table>
Activity 2: Breastfeeding Misconceptions

Learning Objectives
After completing this activity staff will be able to correct some of the misconceptions participants may have about breastfeeding.

Instructions
1. For each of the statements on the next page, write a response to help promote breastfeeding as the norm for infant feeding and provide information to minimize the participant’s misconceptions about breastfeeding.

2. When responding remember to create an environment where the participant feels comfortable.

3. Discuss your responses to the statements with your supervisor or mentor.
Activity 2: Breastfeeding Misconceptions

Situation 1: “I can’t breastfeed. I don’t have enough milk.”

Situation 2: “I have to go to work, so I will have to stop nursing my baby.”
Activity 2: Breastfeeding Misconceptions (continued)

Situation 3: “I can’t breastfeed. My breasts are too small.”

Situation 4: “I feel uncomfortable exposing my breasts in public. I won’t be able to breastfeed.”
Activity 2: Breastfeeding Misconceptions (continued)

Situation 5: “I don’t eat health. Why should I breastfeed my baby?”

Situation 6: “My friends told me to get formula.”
Progress Check Answers

Send completed progress check to State WIC Office attention Lacy Little. Fax: 444-0239, email: lalittle@mt.gov or mail Montana WIC, PO Box 202951, Helena, MT 59620

Activity Completion:

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Resources and Attachments:

“What Should I Eat?” MyPlate Poster.
http://www.nal.usda.gov/wicworks/Topics/MyPlateMomsPoster.jpg

ChooseMyPlate.gov or WICWorks.com

“Where do the Pounds Go?” 2015 Baby Your Baby. Utah County Health Department
www.babyyourbaby.org

WIC State Plan 2015 Policy and Procedures:

Local WIC website. Local Agency Staff. Clinic Admin Resources. State Plan 2015. Policies:

5.1 (Eligibility Guidelines)
5.2 (Certification Procedures)
7.1 (Breastfeeding Promotion and Support)
7.2 (Breastfeeding Peer Counselor Program)
7.3 (Breast Pump Issuance)
http://dphhs.mt.gov/publichealth/wic