WOMEN'S HEALTH MODULE

Women's Health Module

Contents

Tables

About This Module

Introduction

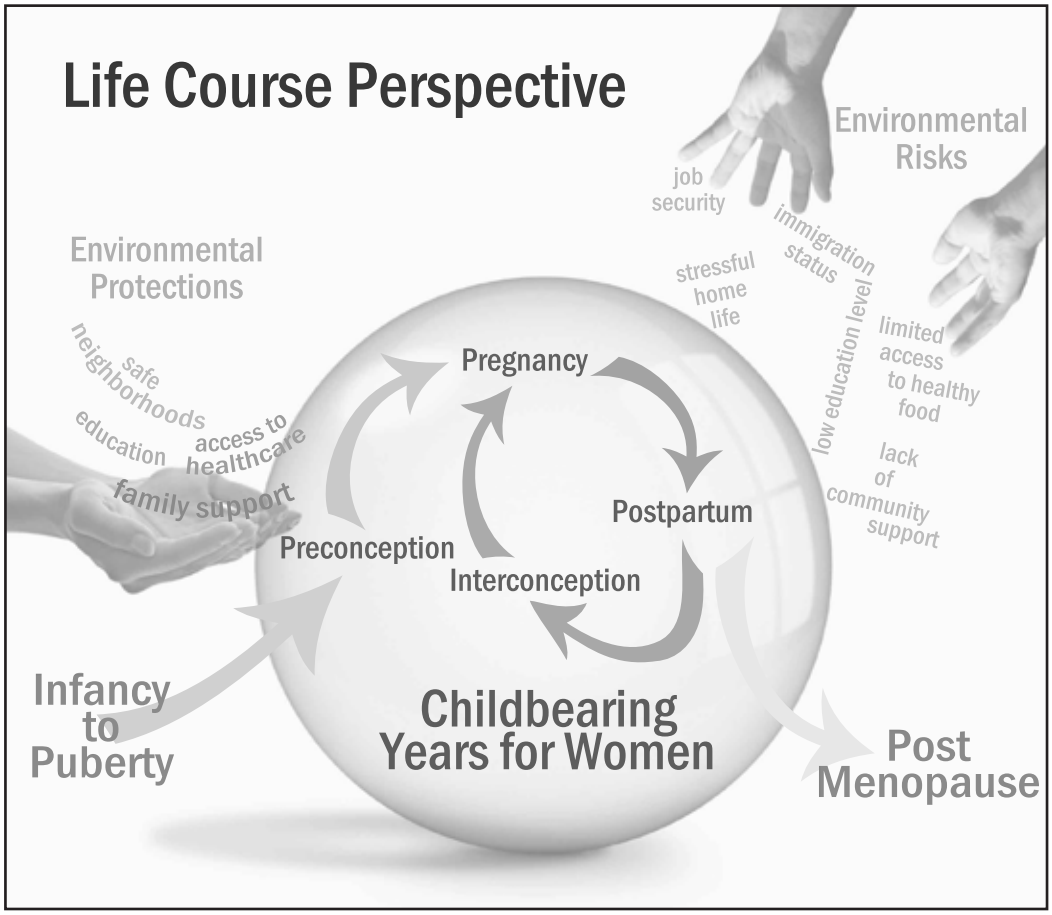
The purpose of this module is to provide WIC staff with information about women's health and current dietary guidelines. After completing this module, staff will be able to express an understanding of how healthy food choices, weight maintenance, and physical activity relate to women's health from the postpartum period and beyond. WIC staff will be able to promote these concepts in daily interactions with clients, friends, and family and will be aware of ways to make positive changes in their own eating habits and lifestyles.

The Life Course Perspective

The life course perspective is based on the premise that the environment — biological, physical, and social — strongly affects our capacity to be healthy. Where we live, learn, work, and play often has more influence on our overall health than having direct access to health services. Some environmental factors protect our health while others put us at risk for disease.

Consider for example, factors like a woman's neighborhood, job opportunities (or lack thereof), exposure to domestic violence, crime, or toxic chemicals. Any one of these factors could play a large part in a woman's overall health. It's important to note that the life course perspective suggests that an individual's health can be shaped by these factors before birth (in utero). So if a woman is surrounded by a poor environment while pregnant it could also affect the long term health of her baby. The life course perspective helps explain, in part, why women of different racial and ethnic groups seem to have healthier pregnancy outcomes or lower rates of chronic diseases.

Think of the life course perspective as a way to see women's health using a "big picture," beyond genetics and beyond personal choice. It means considering how to improve a woman's environment as she transitions through the stages of life in which WIC is involved – before her pregnancy (known as the preconception period), during her pregnancy, after she's had a baby (the postpartum period), and during the period between one pregnancy and the next (the interconception period).



Consider for example, a WIC mom, pregnant for the first time, who might be overweight and stressed about how she will pay her bills each month. This worry causes her body to produce more stress hormones, which could influence her diet choices and cause her to eat for emotional reasons. She may continue to gain weight beyond the recommended levels, and her stress could have other negative effects on her pregnancy and on her baby while still in the womb. She delivers her baby 4 weeks early, and is faced with the additional stress of a caring for a pre-term infant. Six months later she has not lost any of the weight she gained during her first pregnancy. She becomes pregnant again and the cycle continues.

While going through this module, think about how to apply the life course perspective to every interaction you have with a WIC client — before, during, and beyond pregnancy. You're encouraged to think about all the ways WIC can break the cycle to improve the environment of a WIC client as she transitions from one life stage to the next. By keeping the life course perspective in mind, the information and counseling strategies in this module not only empower WIC staff to improve the health of WIC moms but also to improve the health of generations to come.

How to Use the Women's Health Module

The Texas WIC Women's Health Module has two components: 1) the **Women's Health Module** which contains the main text, and 2) the **Women's Health Workbook** which contains the activities and test questions.

This module contains 5 parts. As you read through each part, the following icons will prompt you to stop and go to your workbook to complete the activities and test questions.

Activity Icon — When you see this icon, stop where you are and complete the corresponding activity in the **Women's Health Workbook.**

Test Icon — When you see this icon in the module, stop and complete the corresponding test questions in the **Women's Health Workbook.**

Each local agency has different procedures for checking test answers and making corrections. Check with your supervisor to find out the procedure in your clinic.

Terms that appear in bold type in the text are defined in the margin and in the glossary in the back of the module. There is a single Reference List in the back of the module that contains all the references cited throughout the text.

The **Women's Health Workbook** — You will have your own personal copy of the the **Women's Health Workbook**. Use your workbook to complete module activities and answer test questions.

Note: For certain activities in the **Women's Health Workbook**, you will need to provide personal information. These activities are designed to enhance your learning and help you create personal health goals so be honest with yourself. These activities are part of the workbook and no one else will need to see them.

Encouraging Positive Health Behaviors

Part 1

Objectives

"In order to take care of your baby, you have to take care of yourself." These are words of wisdom that new moms hear over and over. But for many postpartum women, taking care of themselves and practicing healthy habits is easier said than done. In this section we will review a number of lifestyle behaviors and address ways to encourage new moms to adopt healthy habits.

After reading this part, you will be able to:

- Identify the best advice for postpartum women who need to lose weight.
- Identify three helpful eating tips for postpartum women.
- Provide two suggestions for overcoming barriers to physical activity.
- Identify benefits and guidelines concerning physical activity for postpartum women.
- State three tips for managing weight with a healthy attitude.
- Identify trends and information about smoking during the postpartum period.
- Identify a key issue regarding oral health for postpartum women.
- List concerns about drinking alcohol during the postpartum period.
- State the amount of time it takes for alcohol to clear from breastmilk.

Healthy Eating

There is no special diet for postpartum or breastfeeding moms; it is really a matter of following a healthy and balanced eating plan. For women who need to put more focus on losing weight, the best advice is to cut out extra **calories** by avoiding empty-calorie foods such as sodas, desserts, fried foods, and high-fat snack foods, while also getting more physically active.

Calories:
Unit of food energy. Refers to kilocalorie which represents the amount of energy needed to raise the temperature of 1 kilogram of water one degree Celsius from 15 degrees to 16 degrees.

Of course healthy eating when you're caring for a newborn is not always easy. Consider that many new moms feel physically and emotionally exhausted, have little or no time to shop for food or to prepare it, and often rely on whatever they can grab and eat with one hand while holding, feeding, or calming a baby with the other. The key is to give a mom realistic suggestions. Offer specific ideas for healthful and quick snacks and give her permission to keep things simple. Here are some tips to pass along:

- **Focus on healthful snacks and mini-meals.** Home-cooked meals require time and energy, not to mention grocery shopping, so snacks are often a mainstay during the early postpartum period. Choose healthful snacks and "mini-meals" that are easy to grab, pour, or put together. A few ideas include: fruit, yogurt, bagel and cheese, a hard-cooked egg, cereal with fruit and milk, a baked potato with veggies and low-fat cheese, soup, a healthy sandwich, or a handful of veggie sticks with yogurt dip.
- **Enjoy homemade meals prepared by friends and family.** When friends or relatives offer to help, suggest that a homemade meal would be a wonderful gesture.
- **Cook large portions and get creative with leftovers.** Cooking extra portions to eat later can be a real time saver. Store leftovers in the refrigerator to eat within a few days or put them in the freezer to eat later. Also try making foods that can be adapted to various dishes. For example cook a package of pasta and enjoy part of it with spaghetti sauce, and use the rest for pasta salad a few days later. Or bake a whole chicken as a main course and use any leftover chicken for sandwiches or a salad.
- **Choose foods that are lower in fat and calories.** Drink fat-free milk instead of whole milk; try low-fat salad dressings and mayonnaise; opt for baking and grilling instead of frying; and take the fatty skin off the chicken. Shop wisely — look for flavorful products that truly save on the fat and calories.
- **Reach for fruit and vegetables every chance you get.** Every time you plan a meal or snack, include some fruit or vegetables. As long as you do not add extra sugar, butter, or salad dressing, fruits and vegetables are low in calories. And the more low-calorie fruits and vegetables you enjoy, the fewer high-calorie foods you will eat.

- **Be a smart shopper when buying convenience foods.** Grocery stores offer hundreds of items that make cooking easier — from canned beans to entire frozen meals. While these products save time, many are high in fat, calories, and sodium. So read labels and choose healthier items. When preparing products look for ways to lower fat and sodium. To boost the nutrient value of just about any convenience food, mix it or serve it with a favorite vegetable.
- **Make healthier fast food choices.** Fast food is notorious for fat and calories. The good news is that most fast food restaurants do offer healthy choices such as salads with low-fat or fat-free dressings, baked potatoes topped with veggies, grilled burgers (hold the high-fat extras like cheese, bacon and mayo), and sandwiches made with low-fat meats, cheeses, and spreads.

Physical Activity

Physical activity can improve **aerobic** fitness, flexibility, and muscle tone, which are important benefits for all women, including those who do not need to lose weight. Most new moms will tell you that they simply feel better after doing something physical because they know they have done something good for themselves.

Aerobic exercise:
Brisk physical activity that requires the heart and lungs to work harder to promote the circulation of oxygen through the body.

There are common barriers to exercise for postpartum women including bad weather, concerns about safety, limited time and money, and lack of transportation and child care. But it is possible to work around these concerns. For example, one option on a rainy day is to stay home and use an exercise video. When a sitter is not available, a brisk walk with the baby in the stroller is a great activity. There are all kinds of exercises a woman can do while walking the baby in a stroller. If safety is a concern, suggest walking in a mall or walking with friends.

Physical activity does not simply refer to jogging, swimming, or going to an aerobics class. It also means walking the dog, taking the kids to the park when the weather is nice, raking leaves, dancing to music on the radio whenever the mood strikes or parking several blocks away and enjoying a 5-minute walk to and from work each day. Most of these activities are not as intense as traditional exercise, but they do offer benefits and they are things that make up an active lifestyle. Probably the best plan for a postpartum woman is to find one or two

exercises she enjoys (brisk walking, jogging, biking, swimming, etc.) and combine those with a goal to walk more, dance more, play more, and simply keep moving more as part of an active lifestyle.

Here are some basic guidelines for exercise and physical activity during the postpartum period:

- Check with a doctor before getting started. Most women are ready to get more active by about 6 weeks postpartum.
- Start slowly and gradually build up. This is especially true for women who didn't exercise during pregnancy. Those who were physically active during pregnancy have a head start, but they still shouldn't try to jump right in at the same pace they enjoyed before.
- Be especially careful in the first 4–5 weeks postpartum. Ligaments and tendons are still loose during the early postpartum period so there's a higher chance of injury.
- If breastfeeding, wear an exercise bra with good support. Also, nursing or expressing milk before an activity may be helpful.
- Always start by warming up with a light activity, such as slow walking. This gets muscles moving and ready for more intense activity. Be sure to cool down and stretch afterwards. Don't bounce when stretching; instead, hold stretches for 20–30 seconds.
- Drink a lot of fluids. Water is the best choice especially if breastfeeding.
- If possible, exercise with someone. This includes the baby, a partner, a neighbor, or the family dog. Having company makes activities more fun and you're less likely to skip your planned routine.

Managing Weight with a Healthy Attitude

A woman's body image and her attitudes toward food, eating, and activity can greatly affect her health, her health habits, and her postpartum weight. Positive attitudes are related to healthier outcomes. It's not realistic to expect a woman with negative feelings to change overnight. What you can do is offer suggestions for thinking differently. Encourage her to focus on an inner sense of

health and well-being rather than her outward appearance and weight status. Here are some practical tips to pass along to new moms:

- Put away the bathroom scale. Some people watch their weight on a daily basis and if the scale tips in the wrong direction they get discouraged and give up. Real weight change happens over time. So instead of the scale, check your progress by the way you feel, and the way your clothes feel on you. Then you can focus on your new and improved lifestyle habits instead of obsessing about how many pounds you have or haven't lost.
- Don't count every calorie. While it helps to know the caloric content of foods, don't go overboard thinking about every calorie and gram of fat. You'll end up restricting yourself too much and losing sight of what your goal should be — to enjoy a balanced variety of healthy foods.
- Quit "dieting." Forget the idea of "going on a diet" just until you can squeeze into those pre-pregnancy jeans. Discover your own healthy eating plan that you'll follow for years to come. Rather than dwelling on "foods to avoid" think about all the healthful foods you get to enjoy as you improve your eating habits.
- Listen to your hunger. Don't eat just because it's time to eat or because you happen to be in the kitchen. Get in touch with your hunger and wait until you're actually hungry. Then eat slowly and continue to listen to your hunger. If you're starting to feel full, it's time to stop, tell yourself you're done, and appreciate how satisfying it is to be full, knowing that you didn't overeat.
- Recognize stress. It's especially easy to get stressed during the postpartum period and many people turn to food when they're stressed. Before biting into something you grabbed out of the kitchen, ask yourself if you're truly hungry — or are you trying to fulfill some other need?
- Nourish your senses as well as your body. Take the time to see, smell, and taste foods and truly appreciate the flavors. When possible, eat with family or friends. When you eat with others, you're more likely to eat a balanced variety of foods, plus you'll tend to slow down and enjoy the meal.

Activity 1.1 — A WIC client is expressing negative feelings about her weight and appearance. Is that affecting her health? Stop where you are and complete activity 1.1 in the **Women's Health Workbook.**

Sleep (and Avoiding Excess Caffeine)

Unfortunately, sleep deprivation is a fact of life for new mothers. The good news is that women who listen to the age-old advice to "sleep when the baby sleeps" are often able to nap enough during the day and make up for sleep lost at night. It's not the same as a long night of undisturbed sleep but it helps.

Some women deal with sleep deprivation by drinking more caffeine, usually in the form of coffee or sodas. While modest amounts of caffeine don't appear to be harmful, this stimulant can affect a person's mood and when it's time to rest, caffeine can disrupt sleep. What's more, caffeine is transferred into breastmilk. Modest amounts probably don't cause any problems but large amounts of caffeine can affect a breastfed infant causing wakefulness, hyperactivity, or irritability. If a breastfeeding woman is drinking three or more cups of coffee per day (or the caffeine equivalent from other caffeine-containing beverages), WIC recommends cutting back.

Oral Health

There are lots of good reasons to promote oral health among postpartum women including the most obvious: daily brushing and flossing promote healthy teeth and gums. If oral health and daily dental practices are important to a mother, it's likely that she'll take better care of her baby's gums and teeth and teach her child about brushing and flossing early on.

It's also important to talk to women about common practices that spread germs from their mouth to their child's mouth possibly leading to cavities or disease. Moms should not bite off or chew bits of food for their baby, share utensils or toothbrushes, or put a pacifier in their own mouth in an attempt to clean it off.

But one of the most convincing reasons to teach women about oral health involves the connection between maternal gum disease and

increased risks of low birth weight and restricted growth of the fetus. Although researchers are just now learning how gum disease in the mother affects the developing fetus, they do know there's a connection. And the postpartum period is the perfect time to start teaching women about ways to improve the outcomes of future pregnancies.

Smoking

More than 18% of U.S. women are smokers. Lung cancer has surpassed breast cancer as the leading cause of preventable death in women with 80% of lung cancer cases linked to smoking. Nearly all women who smoke start as teenagers and 30% of female high school seniors are current smokers. Why do so many girls start smoking? Studies suggest that the level of perceived importance of being thin among young girls is predictive of smoking initiation.

Smoking Trends Among Pregnant and Postpartum Women

During pregnancy, smoking greatly increases the risks of prematurity, mental retardation, miscarriage, low birth weight, and other serious conditions. These risks are well known, and pregnancy does motivate many women to kick the habit — at least temporarily. About 45% of women smokers who become pregnant successfully quit smoking during their pregnancy. Unfortunately by 6 months postpartum about 50% of those who quit start smoking again. Not only is this a health risk for the mother but children exposed to second-hand cigarette smoke are at increased risk of sudden infant-death syndrome; recurring ear infections; and severe respiratory illnesses such as bronchitis, pneumonia, and asthma.

Another concern is that mothers who resume smoking during the postpartum phase will often stop breastfeeding. In some cases, a woman might feel that smoking affects the amount or the quality of her breastmilk or she may think that formula is a "safer" choice. **Nicotine** in breastmilk may cause fussiness which can lead to supplemental formula, early introduction of solids, and in turn, early **weaning**. Some babies may refuse to feed if they taste changes in the breastmilk after a woman starts smoking again.

Nicotine:
An alkaloid (nitrogen-containing compound) made by the tobacco plant or produced synthetically.

Weaning:
To withdraw; to accustom a child to food other than its mother's milk.

Relapse:
Backsliding; return to behaviors of drug or alcohol use and abuse.

Why do so many women **relapse** during the postpartum phase? The research points to a number of factors including having a partner or friends who smoke, late prenatal care (or none), and stressful life events during the postpartum period. Some women use smoking as a way to control their weight during pregnancy and the postpartum period.

Obviously smoking is a concern for both the mother and her infant. While many efforts are aimed at helping women stop smoking during pregnancy, there's less focus on "relapse prevention" after the baby is born. WIC staff can help by talking to women about the risks of smoking for both mom and baby and encouraging those who have quit to remain smoke-free after delivery. Talk with a mother to help her come up with coping strategies that fit her situation. If a postpartum woman still chooses to smoke, suggest cutting down on the number of cigarettes per day and smoking outside or in a different room away from the baby. If she breastfeeds, suggest that she smoke after breastfeeding rather than before, to reduce the amount of nicotine in her milk during nursing. Be sure to commend her on her choice to breastfeed and strongly encourage her to continue nursing.

Activity 1.2 — Stop where you are and complete activity 1.2 in the Women's Health Workbook**,** effective stress relief practices for smokers trying to quit.

Alcohol

Many women who stop drinking alcohol during pregnancy go back to their earlier drinking patterns after having their baby. For some this means an occasional beer or glass of wine; for others it can mean excessive amounts of alcohol and binge drinking. In 2006 8.4% of American women were heavy drinkers while 15.2% were binge drinkers (having more than 5 drinks at one time). Also, 40% of teenage girls reported some alcohol consumption in the previous month and 30% reported binge drinking.

Depending on how much a woman drinks there are a number of concerns about drinking alcohol during the postpartum period:

- Alcohol adds extra calories to the diet and can take the place of important nutrients.
- Alcohol can impair a mother's ability to care for her infant.
- Alcohol can impair a person's ability to drive a car. If a woman drinks and drives, she poses a very serious risk to herself, her infant, and others.
- Alcohol passes into breastmilk and at high levels can cause problems for the infant such as a weak suck, irritability, excess drowsiness, weakness, or decreased linear growth.
- Alcohol in breastmilk peaks about 30 to 90 minutes after a woman drinks. After consumption of one drink, it takes about 2 hours for most of the alcohol to clear from the breastmilk, although the length of time varies from person to person. The ideal goal for nursing moms is not to drink any alcohol but if a mother isn't receptive to this idea, she should wait until after breastfeeding to take a drink (rather than before) in order to cut down on the amount of alcohol in her milk during nursing.

Drug Use

In 2008 more than 13 million women in this country reported using an **illicit** drug within the past year and more than 3 million reported taking prescription drugs non medically. These substances can affect a woman's judgment and actions and put her and her family in danger. Also, women who abuse drugs and alcohol are at higher risk for HIV/AIDS and other sexually transmitted diseases, tuberculosis, oral and pharyngeal cancer, and injuries.

Illicit:
Not legally permitted or authorized.

Nearly 4% of pregnant women in the U.S. use illicit drugs. Some teens and women do quit or cut back during pregnancy but after their babies are born return to their former drug habits. Of course the safest recommendation is for all women to abstain from all illegal drugs, especially women who want to breastfeed. Illicit drugs will pass into breastmilk and can seriously harm a nursing baby; so, if a participant indicates that she's not willing or able to quit a drug habit, make it clear that she should not breastfeed her baby.

Many women who abuse drugs and alcohol have histories of mental illness. Seventy percent report having been sexually abused before the age of 16 and more than 80% say they have a family member addicted to drugs or alcohol. These factors complicate their illness and treatment.

WIC staff is able to talk with women one-on-one about various health habits including substance abuse. In a non-judgmental atmosphere that offers help and referrals, it's possible that participants will be more willing to discuss substance-abuse issues and seek help. It's important to know about agencies and rehabilitation programs in your area so that you can put women in touch with the right people and programs that can help them.

Activity 1.3— Rochelle is young and pregnant and has confessed she uses prescription drugs. How do you handle the situation? Stop where you are and complete activity 1.3 in the Women's Health Workbook.

Go to Part 1 Test — Use what you've learned in this part of the module to complete the corresponding test questions for Part 1. Record your final answers to the test questions on the *Women's Health Answer Sheets* located in the front of your workbook.

Weight and Women's Reproductive Health

Part 2

Preconception, Pregnancy, Postpartum, and Beyond

"I've tried every type of diet but I can't lose weight."
"It's been a year since I had my baby, and I want to lose this baby fat!"
"Oh, I'm just big-boned. It runs in my family so there's no point in trying to lose this weight after I've had three kids."

Chances are you've heard more than one woman complain about her weight. Gaining or losing weight doesn't happen overnight and everybody loses or gains weight differently. In the U.S., many people currently face weight problems including women at each stage of their lifespan — **preconception**, pregnancy, **postpartum**, and beyond. A woman's weight at each of these stages affects not only her long-term health but also the health of her children (or future children). For this reason, it's important to guide women of all ages and at all stages towards healthy weight maintenance.

Preconception:
Prior to becoming pregnant (fertilization or implantation or both).

In this section, you will read about some of the trends, issues, and challenges related to women's weight during their childbearing years. You'll learn what a healthy weight range goal is for women, why women need to keep a healthy weight before, during and after pregnancy, and counseling tips to help them maintain a healthy weight throughout the course of their lives.

Postpartum:
After the birth of a child.

Objectives

After reading Part 2, you should be able to:

- Apply a "life course perspective" to weight trends in women's health.
- Identify two health risks of being overweight and obese during preconception, pregnancy, and postpartum.
- List two health risks for women who are underweight during preconception.
- Identify two factors related to postpartum weight retention.
- List three key recommendations for postpartum weight change.
- Give an example of a client-centered counseling strategy to use when talking with women about weight-related goals.

Part 2

The Life Course Perspective and Women's Weight

The life course perspective suggests that a person's health is a result of complex interactions among many factors that affected previous generations and impact future generations. These biological, behavioral, psychological, and social factors can protect a person or they can be risk factors for diseases. In some cases nutrition, for example, can serve as either a protective or risk factor. The life course perspective has been used to explain the differences in **health outcomes** between different racial and ethnic groups. It can also be applied to women if they face weight issues before, during, and after their pregnancy. As you're counseling women about their weight at different stages of their life, it is important to help them understand the bigger picture and recognize the importance of keeping a healthy weight — to protect her health, her child's health, and the health of future children.

Health outcomes: The measurement of the value of a particular course of therapy related to health. Health outcomes research is based on the principle that every clinical intervention produces a change in the health status of a patient and that change can be measured.

Weight Issues for Women at All Stages of Life

The prevalence of overweight and obesity in the United States has increased over the past 25 years and over one third of all U.S. adults are now obese (Flegal et al, 2010). Since 1980, obesity has doubled among U.S. women, and tripled among adolescent girls (Sharma/CDC, ND). While it appears these rates might be reaching a plateau, 24.4% of women ages 18—44 were obese across the U.S. in 2009, and 28.1% were obese in Texas (March of Dimes Peristats, 2011).

Activity 2.1 Refer to the Basic Nutrition Module for more information on determining Body Mass Index or "BMI."

Ideally the goal for all women is to achieve and maintain a healthy body weight. For adults, "healthy body weight" is within the normal body mass index (BMI) range of 18.5 to 24.9 (USDA Dietary Guidelines 2010). Women who are already at a healthy weight should maintain that weight and underweight individuals may need to increase their weight. For overweight or obese women, even a little weight loss (e.g. 10 pounds) has health benefits and the prevention of further weight gain is very important.

Longitudinal studies: Study done over the passage of time. For example, a longitudinal study of obesity in children might involve the study of 100 children with this condition from birth to 10 years of age. Also called a diachronic study. The opposite of a cross-sectional (synchronic) study.

Longitudinal studies are also revealing strong support for the notion that women are holding on to their "baby weight" which may put them at risk of being overweight or obese (Grason & Misra, 2006). This extra weight means they may begin to face health risks they didn't have before getting pregnant, including risks associated with being overweight or obese during pregnancy and then postpartum and beyond.

Women's Weight and Health Risks

Women who are over or underweight can face significant risks to their health, particularly when they're of childbearing age. Many overweight women claim that having children has a lot to do with gaining the extra pounds and surveys and studies support the idea that having children increases a woman's risk of gaining excess weight throughout her life.

Activity 2.2 — Fact or Myth? Weight gain in women over time is healthy and part of a natural aging process.

Risks for Overweight or Obese Women

Most people are familiar with the chronic disease risks associated with being overweight or obese including diabetes, hypertension, and heart disease. Heart disease is the leading cause of death for women in the U.S. (CDC). Other less well-known health consequences of being overweight or obese include increased risk for cancer (including breast and **endometrial cancer**), breathing problems, arthritis, and increased risk for **gallbladder** disease, **incontinence**, and depression.

Being an overweight or obese woman is a concern for women at all stages of life including the preconception, pregnancy, and postpartum periods. Overweight and obesity can affect a woman's reproductive health in many ways:

- Being obese increases a woman's risk of **infertility**; as many as 25% of infertility cases in the U.S. can be attributed to overweight or obesity (ADA, ASN 2009). Studies show that obesity and overweight can reduce the effectiveness of oral contraceptives and increase the risk for unintended pregnancies (Grason & Misra, 2006).

Endometrial cancer:
Cancer of the womb (the uterus). Endometrial cancer occurs most often in women between the ages of 55 and 70 years. It accounts for about 6% of cancer in women.

Gallbladder:
The gallbladder is a sac located under the liver. It stores and concentrates bile produced in the liver. Bile helps digest fat and is released from the gallbladder into the small intestine after eating a meal. Types of gallbladder disease include Cholecystitis (inflammation of the gallbladder) and/or Cholelithiasis (gallstones).

Incontinence:
Inability to control excretions. Urinary incontinence is inability to keep urine in the bladder. Fecal incontinence is inability to retain feces in the rectum.

Infertility:
The diminished ability to conceive a child. In specific terms, infertility is the failure to conceive after a year of regular intercourse without contraception.

- Overweight or obese women who do become pregnant tend to have more complications such as early delivery, **gestational diabetes**, **gestational hypertension**, and cesarean section (Siega-Riz 2006).
- Infants born to overweight and obese women have an increased incidence of birth defects, especially **neural tube defects** (NTDs)(Watkins 2003).

Excess weight continues to pose a health risk to a woman in the postpartum period. If a woman is overweight or obese before her first pregnancy and she does not lose her additional weight within the first 6 months postpartum, there's a strong likelihood she'll keep that extra weight and have an even higher BMI postpartum and beyond (Gunderson 2009). "Holding on to the baby fat" may be a common theme, but this extra weight — particularly after the first child and before future pregnancies — places a woman at risk for all the chronic diseases any overweight person faces. Such health risks can be prevented almost completely by maintaining a healthy weight before becoming pregnant, gaining weight according to the Institute of Medicine's 2009 guidelines during pregnancy, and getting back to a normal BMI postpartum.

Risks for Underweight Women

There are also concerns for postpartum women who are underweight including increased risk of **osteoporosis**, menstrual irregularity, and infertility. Women who are underweight before pregnancy and women who do not gain enough weight during pregnancy have a greater chance of delivering an infant with **fetal growth restriction** (also known as **intrauterine growth restriction** or IUGR) (Straus 1999, Ehrenberg 2003, Wu 2004).

Typical Weight Changes During the Early Postpartum Period

A postpartum woman goes through some dramatic weight changes as her hormones and other mechanisms try to restore her body to its pre-pregnancy weight and composition. Starting at delivery, a woman immediately loses an average of 10 to 13 pounds (this takes into account the infant, the **placenta**, the **amniotic fluid,** and blood loss). Next, major fluid shifts and tissue changes occur. For example, the uterus shrinks from 2½ pounds immediately after

Gestational diabetes: A form of diabetes mellitus that appears during pregnancy (gestation) in a woman who previously did not have diabetes and usually goes away after the baby is born.

Gestational hypertension: High blood pressure that develops during pregnancy and may go away after delivery.

Neural tube defects: A major birth defect caused by abnormal development of the neural tube, the structure present during embryonic life which gives rise to the central nervous system — the brain and spinal cord. Neural tube defects (NTDs) are among the most common birth defects that cause infant mortality (death) and serious disability.

Osteoporosis: Thinning of the bones with reduction in bone mass due to depletion of calcium and bone protein. Osteoporosis predisposes a person to fractures, which are often slow to heal and heal poorly.

Fetal/intrauterine growth restriction: The growth of the fetus is abnormally slow. When born, the baby appears too small for its gestational age. Intrauterine growth restriction is associated with increased risk of medical illness and death in the newborn.

delivery to a mere 2 ounces at 6 weeks postpartum. These changes during the first 6 to 8 weeks postpartum lead to an additional 7 to 11 pounds of weight loss, on average. A typical postpartum woman will continue to lose weight steadily in the following months with the greatest weight loss occurring in the first 3 to 4 months postpartum. Typically around 6 months postpartum, her body weight is more stable and, ideally, she's closer to her pre-pregnancy weight (Mohrbacher 2010).

Activity 2.3 — Stop where you are and complete the Case Study in the Women's Health Workbook**.**

Weight Trends in the Late Postpartum Period and Beyond

Why do some mothers lose weight in the postpartum period while others don't? There's no easy answer to that question but researchers do agree that gaining too much weight during pregnancy may cause a woman to retain weight postpartum.

While the research shows that most postpartum women return to a weight that's within 2 to 4 pounds of their pre-pregnancy weight, getting back to a healthy weight after childbirth is difficult. If a woman is having trouble getting back to a healthy weight after having a baby it puts her future health and pregnancies at great risk. What are some of the factors affecting women's weight after pregnancy?

As for breastfeeding, it's a common belief that breastfeeding promotes postpartum weight loss. This seems logical since lactation requires extra energy, plus it's one reason women increase their fat stores during pregnancy. But research results are mixed — some breastfeeding women lose weight while others don't.

Placenta:
A temporary organ joining the mother and fetus, the placenta transfers oxygen and nutrients from the mother to the fetus and permits the release of carbon dioxide and waste products from the fetus. It is roughly disk-shaped, and at full term measures about seven inches in diameter and a bit less than two inches thick. The upper surface of the placenta is smooth, while the under surface is rough. The placenta is rich in blood vessels. The placenta is expelled during the birth process with the fetal membranes; together, these structures form the afterbirth.

Amniotic fluid:
Amniotic fluid is a clear, slightly yellowish liquid that surrounds the unborn baby (fetus) during pregnancy. It is contained in the amniotic sac. It helps the developing baby to move in the womb and promotes proper bone growth and healthy lung development, keeps the temperature around the baby relatively constant, and protects the baby from outside injury by cushioning sudden blows or movements.

Table 2.1 Factors Affecting Women's Weight After Pregnancy

Physiological Factors	Socioeconomic Factors	Lifestyle Factors	Psychological Factors	Genetic Factors
• excessive weight gain during pregnancy • being overweight or obese before pregnancy • not losing the extra weight within the first 6 months	• less education • lower income • living in a rural area	• poor diet • inactivity • smoking • not working outside the home • being unmarried	• body image • attitudes towards food, exercise, and weight gain • postpartum depression	• having a genetic tendency to gain weight • being African American

Client-centered Counseling Strategies for Discussing Weight

When counseling women about their weight at all stages of life (particularly if they've had a baby recently) talk about working toward a "target weight range" or a "healthy weight range." Once you've established a healthy weight goal using BMI calculations, it's important to put weight in perspective. Keep the focus on small steps to health and lifestyle habits that will last a long time — not just for the postpartum period. Remember that every woman is the expert in her own life. Here are a few tips:

- **Focus on opportunities.** When discussing weight, don't emphasize her current weight and how much she has to lose. Instead, emphasize that both the preconception and postpartum periods offer a unique opportunity to eat healthier and become more active, both of which can help her reach a healthy weight range.
- **Help her understand that losing weight takes time, especially after delivery.** After the initial rapid weight

changes that occur right after delivery, postpartum weight loss slows down. Pregnancy lasted 9 months so she needs to allow lots of time to adjust. Discuss losing weight at a slow, healthy rate (1 to 2 pounds per week). Emphasize that quick weight loss schemes can be dangerous and they generally don't have lasting results, if any. The best approach is to eat healthy foods, cut out "empty-calorie" foods like sodas and candy, and at the same time, increase activity level. This will help her reach and KEEP a healthy weight postpartum and beyond.

- **Remind her that she's an individual.** No two women are alike so she shouldn't compare herself to a cousin who "lost all her baby weight within a month," or a friend "who always loses weight quickly." Instead she needs to focus on her own health and well-being and allow her body to adjust at its own rate.
- **Be sensitive to underweight women.** Although most postpartum women need to lose weight, there are a number of underweight WIC clients and reaching a healthy weight goal is equally important for these women. They deserve just as much consideration with regard to their weight status, eating habits, and physical activity.

Go to Part 2 Test — Use what you've learned in this part of the module to complete the corresponding test questions for Part 2. Record your final answers to the test questions on the *Women's Health Answer Sheets* located in the front of your workbook.

Nutrient Needs for Women Part 3

Objectives

Most people know that nutrient intake is important during pregnancy. But what happens during the other times when a woman is not pregnant? The Life Course Perspective is a relationship between time and behavior and stresses the importance of nutrition and good health all the time. This includes:

- When you are not pregnant.
- Just before you become pregnant.
- During pregnancy.
- After your child is born.

Practicing good nutrition habits is important in all phases of life. This means that good eating habits are equally important before you become pregnant, during pregnancy, after child birth, and before your next pregnancy. In this lesson you will learn about what foods are important for a woman's health so that you can counsel women on how to have a healthy pregnancy and healthy children.

After completing Part 3, you will be able to:

- List three factors that can deplete nutrient stores.
- Identify ways to increase iron absorption.
- Recognize sources of calcium and its significance for teens and women.
- Describe the importance of folic acid for women of childbearing age.
- Identify fluid needs for women.
- Define and list examples of empty-calorie foods.
- Identify basic nutrition information related to women's health.

Part 3

Nutrition Goals for Women

Even though a new mother is no longer pregnant, she still has her own set of nutrient needs and nutritional goals. Weight loss is the number-one goal for many postpartum women, but other issues are just as important. They include:

- **Replenishing nutrient stores.** After 9 months of pregnancy and hours of labor and delivery, a woman's nutrient stores are often depleted. The nutrients she will need depend on factors such as her diet during pregnancy, current or prior conditions that affect her nutrient intake or nutrient status, whether she had severe morning sickness throughout pregnancy or significant blood loss during delivery, whether she carried and delivered multiple babies, and whether she smokes or uses drugs or alcohol. Eating a healthy, well balanced diet will help replenish nutrient stores over time.
- **Meeting current nutrient needs.** A new mother's nutrient intake should provide for her current needs. Postpartum women who are not breastfeeding have the same nutrient recommendations as non-pregnant women. Postpartum teens have their own unique needs since they are still growing.
- **Laying the foundation for future pregnancies.** Now more than ever, health professionals are urging women to eat right and manage their weight before getting pregnant. The interpregnancy interval is the amount of time between pregnancies. Shorter interpregnancy intervals mean a shorter time for repletion of nutrient stores (CDC). A woman who starts out her pregnancy with adequate stores of iron, calcium, and other nutrients will fare better than one who eats poorly and begins her pregnancy with nutrient deficits. WIC staffers have the opportunity to help women adopt eating patterns that will better prepare them for future pregnancies.

Key Nutrients for Women's Health

FOR MORE INFORMATION
See the section on essential nutrients in the Texas WIC Basic Nutrition Module.

All nutrients are important but some are especially significant for women. Postpartum women should eat a balanced diet that provides enough folic acid, calcium, iron, fiber, water, and other essential nutrients. It's also important for new moms to limit fat and simple sugars in order to return to and maintain a healthy weight.

Folic Acid

The body needs folic acid to make new cells and for protein synthesis and growth. Folic acid is especially important for women because it can help prevent up to 70% of NTDs, a class of birth defects involving the brain and spinal column. The neural tube of a fetus develops and closes within the first 30 days of pregnancy when most women don't even know they are pregnant. In 2007 the National Centers for Disease Control and Prevention (CDC) reported that NTDs affect an estimated 3,000 pregnancies annually, and 95% of children born with a NTD are born to couples with no history of these birth defects (D'Angelo et al, 2007). Experts recommend that ALL women of childbearing age get adequate amounts of folic acid on a continuous basis from foods and daily multivitamins. This ensures that if a woman does get pregnant she'll be getting the folic acid she needs in the early weeks.

Table 3.1

Recommended Folic Acid Intake	microgram (mcg)
Non-pregnant women	400 mcg/day
Breastfeeding women	500 mcg/day
Pregnant women	600 mcg/day

Women who have had a pregnancy affected by a NTD should speak with their doctors about taking a higher dose of folic acid every day (CDC/Folic Acid). Women can get 400 mcg of folic acid by doing ONE of the following every day:

- Take one multivitamin pill that contains 400 mcg of folic acid.
- Take a supplement that contains only 400 mcg of folic acid.
- Eat a serving of fortified cereal.

Folate is the naturally occurring form of folic acid found in legumes and dark leafy greens. While the body only absorbs about 50% of the naturally occurring folate from foods, it absorbs nearly 100% of **synthetic folic acid** found in fortified foods and vitamin supplements. So it is unlikely that diet alone can provide levels similar to folic acid-multivitamin supplementation. Therefore it is very important for women of childbearing age to take a folic acid supplement daily in order to prevent NTDs which often develop before women know they are pregnant (Wilson et al, 2007).

Synthetic folic acid: A type of water-soluble B vitamin. It is the man-made (synthetic) form of folate that is found in supplements and added to fortified foods.

A survey conducted by the CDC assessed the use of supplements containing folic acid among women of childbearing years. Researchers were specifically interested in why women do not take vitamin or mineral supplements on a daily basis. They found that the most common barrier women noted was forgetting to take the supplement (CDC/MMWR, 2005).

Tips for taking 400 mcg of folic acid every day:

- **Pill Placement**. Place the vitamin or folic acid bottle out in the open (away from children) where they are noticeable, next to the toothbrush, in a purse, or on the kitchen table.
- **The Reward.** Link taking a vitamin or folic acid pill with some reward, like a small piece of chocolate. Craving for the reward will trigger the memory to take the vitamin.
- **Automatic Reminder**. Set a phone, watch alarm, or computer calendar for a daily reminder.

Activity 3.1 — Test your knowledge about folic acid.

Calcium

Calcium needs are highest during the teenage years, but WIC emphasizes calcium intake for all women because it is an important nutrient for bone health and because many women don't get enough calcium in their diets. In later adulthood, if there is a long history of poor calcium intake combined with other risk factors, the bones can become thin and brittle, a condition known as osteoporosis. The best ways to avoid osteoporosis are (1) getting enough calcium during the teen years when the bones are growing, and (2) reducing calcium loss during the adult years by eating a calcium-rich diet, getting plenty of exercise, not smoking, and not abusing alcohol.

Table 3.2

Recommended Calcium Intake milligrams (mg)	
Teenage girls	1300 mg/day
Women 19 to 50 years old	1000 mg/day
Women 50 years and older	1200 mg/day
3 servings of calcium-rich foods ~ 1000 mg 4 servings ~ 1300 mg	

Lactose intolerant: The inability to digest lactose. Lactose is a type of sugar found in milk and other dairy products.

Many women and teens avoid milk products in an effort to cut back on fat and calories; fortunately, there are plenty of low-fat and fat-free dairy products available. Women who are severely **lactose intolerant** or who follow a vegan diet need non-dairy sources of calcium to meet their needs. Although it requires some planning and knowledge, it is possible to get enough calcium from non-dairy sources (Institute of Medicine, 2011).

Sources of Calcium (Ca)

- **Dairy products** — milk, yogurt, cheese, and cottage cheese — are the richest sources of Ca.
- **Non-dairy products** — fortified soy milk, black beans, black-eyed peas, dried beans, firm tofu, tempeh, fish with edible bones (canned sardines and salmon), calcium-fortified breads, and juices — provide considerable amounts of Ca.
- **Other sources** — leafy vegetables like turnip greens, beet greens, collard greens, mustard greens, broccoli, kale, cabbage, bok choy, almonds, and sesame seeds — provide smaller amounts of Ca compared to dairy foods.

Anemia: A condition in which the blood is deficient in red blood cells, in hemoglobin, or in total volume.

Iron

Iron is an important mineral that helps carry oxygen through the blood. A diet lacking in iron results in depleted iron stores which, over time, leads to **anemia**. WIC emphasizes the importance of iron because anemia is a widespread public health concern. In fact, iron deficiency is the most common nutritional deficiency and the leading cause of anemia in the United States. Iron deficiency is a concern because it can cause fatigue and impair a woman's ability to do physical work. It can also increase certain risks during pregnancy (CDC/Iron). In order to meet the daily recommended intake of iron, a woman needs to eat a very well balanced diet with plenty of iron-rich foods.

Table 3.3

Recommended Iron Intake milligrams (mg)	
14 to 18 years	15 mg/day
19 to 50 years	18 mg/day
51+ years	8 mg/day

Sources of Iron

Unfortunately, the body only absorbs 2 to 35% of the iron that we eat. This stresses the importance to not only eat the recommended daily amount but to increase the amount taken into the body.

Animal Sources (Heme Iron)

- beef, chicken, and pork

Non-Animal Sources (Non-heme Iron)

- dried beans, tofu, dried fruits, and fortified cereals

Ways to Increase Iron Absorption

- Foods high in vitamin C increase iron absorption. For example, drink orange juice with iron-fortified cereal.
- Include heme iron foods in a meal of non-heme iron.
- Cook in cast-iron pots as it can add iron to foods.
- Avoid drinking coffee and tea with high-iron foods because caffeine decreases iron absorption.

Blood glucose:
Sugar in the blood.

Insulin:
Insulin is a protein hormone that is synthesized in the pancreas from proinsulin and secreted by the beta cells of the islets of Langerhans. It is essential for the metabolism of carbohydrates, lipids, and proteins. These regulate blood sugar levels by facilitating the uptake of glucose into tissues; by promoting its conversion into glycogen, fatty acids, and triglycerides; and, by reducing the release of glucose from the liver. When produced in insufficient quantities it results in diabetes mellitus.

Fiber

Typically Americans consume about 12 to 15 grams of fiber a day, but nutrition experts recommend an intake of 14 grams per 1,000 calories or 25 grams per day for women. So eating more fiber translates into eating more fruits, vegetables, and whole-grain breads and cereals. These high-fiber foods have the added benefit of being generally low in fat. Fiber is important in promoting regular bowel movements and adds bulk to the stool. It reduces constipation and may help prevent some diseases such as colon and rectal cancer. Certain types of fiber appear to help reduce the risk of heart disease and help regulate **blood glucose** and **insulin** (USDA Dietary Guidelines, 2010).

Fiber-Friendly Food Swaps

White Rice → Brown Rice
White Bread → Whole Grain Bread
Donut → Bran Muffin
Sour Cream Dip → Hummus
Pudding → Applesauce

Activity 3.2 — Refer to your Women's Health Workbook and complete the activity.

Water (fluids)

Even though most people don't think of it as an essential nutrient, water is necessary for health and survival. Drinking water helps maintain the balance of body fluids. It can also help to control calorie intake when used as a substitute for higher calorie beverages. Most women should consume about 8 to 12 cups of fluids every day especially if they are breastfeeding or live in warm climate areas.

Tips to Increase Fluid Intake

- Drink water or a low-calorie beverage with every snack and meal.
- Eat more fruits and vegetables (solid foods can provide up to 4 cups of water).
- Keep a bottle of water with you in your car, at your desk, and in your bag.

Limiting Fat and Simple Sugars

The typical American diet goes overboard on fat and **simple sugars** in the form of "empty-calorie" foods (pastries, pies, doughnuts, chips, cakes, cookies, candy, soft drinks, fruit drinks, etc.). These foods contribute calories without providing many nutrients and they replace other more nutritious foods in the diet. Women should focus on eating nutrient-dense foods to help them return to a healthy weight. These foods provide the full range of essential nutrients and fiber without excess calories.

Simple sugars: Simple sugars are also called simple carbohydrates. Simple carbohydrates are broken down quickly by the body to be used as energy. Simple carbohydrates are found naturally in foods such as fruits, milk, and milk products. They are also found in processed and refined sugars such as candy, table sugar, syrups, and soft drinks.

Examples of the Calories in Food Choices That Are Not in Nutrient-Dense Forms and the Calories in Nutrient Dense Forms of These Foods			
Non-nutrient dense foods	Calories in nutrient-dense form of the food	Additional calories in non-nutrient dense food as consumed	Total calories
Regular ground beef patty (75% lean) cooked — 3 ounces	*Extra lean ground beef patty (90% lean)*	Beef fat	
	184	52	236
Breaded fried chicken strips — 3 ounces	*Baked Chicken Breast*	Breading and frying fat	
	138	108	246
Frosted corn flakes cereal — 1 cup	*Corn flakes*	Added sugars	
	90	57	147
Curly french fried potatoes — 1 cup	*Baked potato*	Frying fat	
	117	141	258
Sweetened applesauce — 1 cup	*Unsweetened applesause*	Added sugars	
	105	68	173
Whole milk — 1 cup	*Fat-free milk*	Milk fat	
	83	66	149
Based on data from the U.S. Department of Agriculture, Agricultural Research Service, Food and Nutrient Database for Dietary Studies 4.1. http://www.ars.usda.gov/Services/docs.htm?docid=20511 and USDA National Nutrient Database for Standard Reference, Release 23. http://www.nal.usda.gov/fnic/foodcomps/search/.			

Activity 3.3 & 3.4 — Refer to your Women's Health Workbook and complete the activity.

Nutrition Advice for Women's Health — ChooseMyPlate.gov

As we have read, women have some important nutritional needs. The good news is there is no specific diet for healthy women — no special food lists, no need to keep track of every gram of fat or constantly count calories throughout the day. But women should not simply ignore their nutrient needs. On the contrary, it is extremely important for a new mother to nurture herself just as much as she nurtures her baby. The easiest, most effective way to do that is by eating a wholesome, balanced, low-fat diet that includes plenty of fruits, vegetables, whole grains, and low-fat dairy products.

Sound familiar? It should. A balanced diet made up of a variety of foods is the basis for MyPlate, a daily guide to good eating (Figure 1.1). MyPlate offers excellent advice for women regarding the types of foods they need and the number of servings they need from each food group. MyPlate serves as a sound, effective plan for losing weight, especially when coupled with physical activity.

Activity 3.5 — Refer to your Women's Health Workbook and complete the activity.

Go to Part 3 Test — Use what you've learned in this part of the module to complete the corresponding test questions for Part 3. Record your final answers to the test questions on the *Women's Health Answer Sheets* located in the front of your workbook.

Other Postpartum Issues Affecting Nutritional Status

Part 4

Objectives

In this part of the module we'll take a look at some other important topics that are related to postpartum nutrition, either directly or indirectly. They include: gestational diabetes, postpartum depression, unexpected birth outcomes, teen motherhood, and family planning.

After reading Part 4, you'll be able to:

- Identify three recommendations for women who have had gestational diabetes.
- Describe the three different types of postpartum depression.
- Recognize an appropriate response to a woman who has had a pregnancy loss.
- Identify trends related to teen mothers.
- State tips for counseling postpartum teens.
- Recognize ways that family planning can impact birth outcomes.

Gestational Diabetes

Gestational diabetes mellitus (GDM) is a type of diabetes or high blood sugar that some women develop during pregnancy. The condition usually goes away after the baby is born but GDM is still an important health issue even after it's gone. That's because women with a history of GDM are at higher risk of experiencing GDM again during future pregnancies, plus they have a much higher risk of developing **type 2 diabetes** which can occur anytime. In type 2 diabetes, high blood sugar can damage the heart, arteries, eyes, nerves, and kidneys and cause serious health problems. Infants born to women with diabetes have a higher risk of congenital birth defects. It's crucial to educate postpartum women who have a history of GDM. Here are some ways they can lower their risk of developing diabetes in the future:

Type 2 diabetes (T2DM): Lifelong (chronic) disease in which there are high levels of glucose in the blood. T2DM is the most common type of diabetes.

- **Know the risk factors for GDM and type 2 diabetes.** Risk factors include being obese; having a family history of diabetes; being Hispanic, African American, or Native American; and having had GDM during a previous pregnancy.
- **Reach and maintain a healthy weight.** For some women who are overweight, losing even just a little weight can help them avoid type 2 diabetes.
- **Eat healthfully and become physically active.** Diet and exercise help the body use glucose, plus they are keys to reaching a healthy weight.
- **Have blood sugar checked routinely.** The American Diabetes Association recommends that a woman who had GDM should have her blood sugar checked at the postpartum visit and then a minimum of once every 3 years.
- **Know the symptoms of type 2 diabetes.** A woman should contact her doctor if she thinks she's having any symptoms of diabetes. These include blurred vision, lack of energy, extreme thirst or hunger, frequent urination, a sudden change in weight, a slow-healing cut or sore, numbness or tingling in hands or feet, and frequent infections.

Activity 4.1 — Test your knowledge of gestational diabetes.

Postpartum Depression

Feelings of anxiety or depression after delivery can affect a woman's appetite, intake, and overall health, in addition to her child's health and well-being. While **postpartum depression** is nothing new, it's certainly getting much more attention these days from the media, health professionals, and the public. Physicians are learning more about diagnosing postpartum depression and postpartum women are learning that help is available.

Postpartum depression: Moderate to severe depression in a woman after she has given birth. It may occur soon after delivery or up to a year later. Symptoms do not go away within days or weeks and treatment is usually required.

Because WIC staff has the opportunity to talk with so many postpartum women, it's important to understand what postpartum depression is and what the symptoms are. *However, WIC staff is not qualified or authorized to diagnose postpartum depression or try to distinguish between the so-called baby blues and other more severe forms of depression in participants.* If a participant indicates she is

depressed, it's appropriate to offer general support and then refer her to a physician for further evaluation.

Emotional reactions during the postpartum period can range from common, mild anxieties known as the postpartum blues, to more severe forms of depression referred to as postpartum depression and postpartum psychosis.

Postpartum Blues (or the "baby blues")

About 50 to 80% of new mothers experience the so-called baby blues. These are temporary symptoms that usually appear 3 to 4 days after delivery and then go away within several days to several weeks. Symptoms include:

Postpartum blues (baby blues): Feelings of anxiety, irritation, tearfulness, and restlessness in the week or two after pregnancy. Symptoms go away soon (usually 3 to 4 days, up to a couple weeks) without the need for treatment.

- Mood swings
- Crying easily and for no reason
- Irritability
- Restlessness
- Difficulty sleeping
- Difficulty eating
- Uncertainty about caring for a new baby

For many women it helps to know that these feelings are normal and very common. Support from family and friends is especially important, as well as getting plenty of rest, eating healthy foods, taking a shower and getting dressed each day, getting out of the house, and taking daily walks. Without adequate support and in stressful situations, the blues can lead to a more serious postpartum depression. If the baby blues continue into the third week postpartum, it may be an indication of something more serious.

Postpartum Depression (nonpsychotic)

This form of depression is more severe than the baby blues. In 2008 around 10 to 15% of women self-reported postpartum depression, however the actual occurrence could be higher. It happens within 12 months postpartum, usually starting 2 to 3 weeks after delivery. Unlike the baby blues, the symptoms of postpartum depression don't go away within a few weeks. Women with postpartum depression often experience:

- Severe sadness or emptiness.
- Withdrawal from family, friends, or pleasurable activities.
- Constant fatigue and trouble sleeping.
- Overeating or loss of appetite.
- A strong feeling of failure or inadequacy.
- Intense concern and worry about the baby or a lack of interest in the baby.
- Thoughts about suicide, and/or fears of harming the baby.

Postpartum psychosis

This is a rare but very severe form of postpartum depression which occurs in 1 to 2 cases for every 1000 births. Symptoms include:

- Delusions (false beliefs)
- Hallucinations (hearing voices or seeing things that are not real)
- Thoughts of harming the baby
- Severe depressive symptoms

Compared to women with nonpsychotic postpartum depression, women with postpartum psychosis who have thoughts of harming their infants are more likely to act on them.

Predictors

Studies point to a number of predictors for postpartum depression including prenatal depression, poor self-esteem, child-care stress, stressful life events, lack of social support, history of previous depression, infant temperament, being single, low socioeconomic status, and unplanned or unwanted pregnancy.

Treatment

If left untreated postpartum depression can have long-term consequences. Women who have had postpartum depression are at greater risk of experiencing recurrent depression in the future, especially in future pregnancies. Studies have shown that a mother's depression can affect her children's ability to learn as well as contribute to various emotional, behavioral, and interpersonal problems in the child's life. The good news is that the symptoms of postpartum depression, both mild and severe, can be treated with

skilled professional help and support. Treatment often involves a combination of medical, psychological, and social interventions. Again, WIC staff members are not trained to diagnose postpartum depression, though they can be very helpful in referring women who indicate they are depressed.

Activity 4.2 — Test your knowledge of postpartum depression.

Difficult Outcomes of Pregnancy and Birth

For women who have experienced loss through a miscarriage, fetal death, neonatal death, or SIDS, the postpartum period is a very difficult and challenging time. These women often feel angry, helpless, guilty, or frightened, and their grief can seem unbearable. Similarly women who have a baby with a birth defect or some other serious medical condition will also experience a number of difficult emotions and can be overwhelmed with the prospects of caring for an infant, especially if they have limited support and resources.

Women in these situations need plenty of extra support and understanding as they work through their loss. They're likely to experience different emotions such as shock, numbness, denial, anger, guilt, and finally acceptance. These women are at higher risk for postpartum depression.

Sometimes listening to the mother is the best thing a counselor can do. It's important for a staff member to avoid comparing the mother's grief with anything he or she has experienced since that takes the focus off the mother and puts it elsewhere. Staff should avoid saying things like "I know how you feel." The mother will think, "No, you don't." A counselor who has had a similar experience (miscarriage, loss of a parent, etc.) might say "I lost a loved one, too. I remember how hard it is." But it's important to stop there. It's not the time for other people to share their stories. Instead, they need to listen and offer support. One important way WIC staff can help is to recommend appropriate support groups. Many communities have groups for pregnancy loss, SIDS support, and support for parents with critically ill children. Social workers and local hospitals may be of help in locating area support groups.

Part 4

Teenage Mothers

The teen pregnancy rate in Texas is 88 teen pregnancies per 1,000 overall pregnancies, far exceeding the national rate of 70 teen pregnancies per 1,000 overall pregnancies. It's estimated that every 10 minutes a teenager in Texas gets pregnant. While education and family planning are key to preventing teen pregnancy, there are many teen moms out there already. Fortunately WIC is one resource that can offer help in terms of resources and education for pregnant and postpartum teens.

Generally teens tend to receive late prenatal care. They might also engage in risky health behaviors such as eating a poor diet, having unsafe sex, and experimenting with or using alcohol, drugs, and/or cigarettes. As a result, they're at higher risk of giving birth to premature or low-birth weight infants. Babies of teen moms have more health problems and are hospitalized more as well. They're also more likely to experience behavioral and social problems, poor nutrition, abuse, neglect, and inadequate health care.

Many teen moms find themselves in a vicious cycle. Not only do children create financial stress, they can be a reason teenage mothers fail to complete high school. Poor education limits earning potential, which in turn, limits access to health care, child care, and other opportunities for children. It's not surprising that children born to teen moms have higher rates of adolescent childbearing themselves.

But the picture isn't totally bleak. Various types of school and public-health intervention programs across the country offer support and education to help teen mothers. WIC is an important partner in this effort. When working with teen WIC participants, it helps to have some knowledge about teens and effective ways to talk with them. Here are some tips:

- Greet and call teens by their names each time you see them.
- Create an attitude of acceptance. They don't want to hear how they have "messed up" their lives by having a baby too early. Teens want to know what to do to care for their baby and care for themselves.
- If possible, counsel the teen individually, without friends or family present (this may not be possible in all situations). This helps to set a supportive, non-judgmental tone, and it may be one of the few times the teen gets individual attention separate from others.

- Offer choices when possible; this allows the teen to feel independent and make her own decisions.
- Allow the teen to offer her own ideas and suggestions before presenting information since she may not be very interested in what an adult or health professional has to say. Let her choose among several ideas or strategies you present.
- Ask what type of support she has from family, friends, the baby's father, community, etc. Help her think of specific ways she can use this support (i.e., friends or family can help prepare meals, run errands, or baby-sit; some communities offer free parenting classes, etc.).
- If a teen indicates she is depressed, refer her to a physician for further evaluation.
- Focus on positive changes that teens can make rather than a long list of things they can't do or can't eat. If a teen does need to make changes in her behavior, try to reach a compromise by suggesting she "cut down" instead of insisting that she "cut out" a food or behavior.

Activity 4.3 — Test your knowledge of teenage pregnancy.

Family Planning

For a postpartum woman, family planning can help her avoid a closely-spaced pregnancy, thus giving her body time to adjust and rejuvenate. A woman needs time to replenish depleted nutrient stores before getting pregnant again, especially nutrients such as iron and folic acid. Also, closely-spaced pregnancies increase the risk of having a low-birth-weight infant.

What's more, family planning can help a new mother prepare herself for her next pregnancy. In particular it's important to try to reach a healthy weight before conception in order to have a healthier pregnancy and healthier baby. For example, being obese increases the risk of infertility. Overweight and obese women tend to have more complications during pregnancy, including gestational diabetes, high blood pressure, and inpatient hospitalization. Underweight women run a higher risk of delivering babies with restricted growth.

Contraception Methods

While motherhood is a defining part of adult life for many women, most spend the greater part of their reproductive years trying to avoid pregnancy. The most commonly used contraceptive is birth control pills (10.7 million women), followed by female sterilization (10.4 million), the male condom (7.9 million) and male sterilization (4.2 million). Between 2006 and 2008, 3.2% of women used injectable hormones, 2.4% used vaginal rings, and 1.1% used hormonal implants. For more information, refer to the DSHS Family Planning Division's booklet Birth Control — Your Choices! (stock no. 1-71). If you need to help a participant locate a family-planning provider, refer to the online DSHS Family Planning Locator <http://www.dshs.state.tx.us/famplan/>.

Go to Part 4 Test — Use what you've learned in this part of the module to complete the corresponding test questions for Part 4. Record your final answers to the test questions on the *Women's Health Answer Sheets* located in the front of your workbook.

Part 5

Effective Counseling Strategies in Women's Health — Postpartum and Beyond

Now that we've covered a number of women's health topics, we need to step back and think about how to counsel women who are experiencing the realities of life at all stages — preconception, pregnancy, postpartum and beyond. As a WIC employee, you want to help these women improve their health and that of their families. Remember, you need to consider how your advice fits in with a woman's daily routine and the challenges she faces, whether she is expecting, has a new baby at home, or is juggling multiple children. If your advice isn't practical and realistic for a mom, then it's not going to be very helpful.

Activity 5.1 — Use the VENA web page on the WIC website for tools and resources to make your counseling effective and client-centered.

Behavioral change research shows that people need more than just knowledge to make healthy choices — clients need to be invested and involved in setting goals with the counselor (Spahn 2010). Keep your counseling sessions **client-centered** and guide the conversation in a safe and nurturing way. Acknowledge and respect that the woman in front of you is truly the expert in her own life and family circumstances. Invite her to share her specific experiences and what she's learned, and offer a choice of materials that fit her learning style and interests. Keep the focus on small steps to health and lifestyle habits that will last a long time.

Client-centered:
A style of counseling and nutrition education that encourages participants to play an active role in their own learning and allows staff to act as a guide or a facilitator.

Objectives

After reading Part 5, you should be able to:

- Identify open-ended and close-ended questions.
- Identify two effective individual counseling techniques.
- List two examples of statements to affirm a new mother's feelings.
- List three physical changes that occur during the early postpartum period.

Part 5

Counseling Postpartum Women — A New Mother's New Lifestyle

While some women sail easily through the postpartum period with few problems, others are overwhelmed with the physical, emotional, and daily changes that take place during this time.

Physical Changes

During the first days and weeks after delivery, many women find themselves dealing with all kinds of physical stresses and discomforts, for some of which they may not be prepared. For example, it's common to feel afterbirth pains (**uterine contractions**) as the uterus shrinks back to its normal size, plus a woman may have pain from an **episiotomy** or from tearing. If a woman has had a cesarean birth, she must care for the incision, avoid lifting heavy things (including toddlers, heavy bags of groceries, etc.), and she may have some discomfort at the incision site. Many women have **hemorrhoids** as a result of pregnancy and/or delivery, and some experience constipation after delivery. Complaints of headaches, shoulder pain, back pain, and fatigue are not uncommon.

About 2 to 6 weeks after delivery, women have a vaginal discharge called lochia (a discharge of blood and what's left of the uterine lining). Most postpartum women also experience breast swelling, and for those who choose to breastfeed, they may find the process doesn't happen as naturally as they hoped. And as if all that's not enough, some women find they're left with stretch marks or **varicose veins**, and some lose large amounts of hair a few weeks after delivery.

Uterine contractions: The tightening and shortening of the uterine muscles which, during labor, cause the cervix to thin and dilate (open) and help the baby to descend into the birth canal

Episiotomy: An incision performed between the vagina and the rectum that is used to increase the size of the opening of the vagina to assist in delivery of a baby.

Hemorrhoids: Painful, swollen veins in the lower portion of the rectum or anus. Hemorrhoids are very common, especially during pregnancy and after childbirth. They result from increased pressure in the veins of the anus. The pressure causes the veins to swell, making them painful, particularly when you are sitting. The most common cause is straining during bowel movements.

Emotional and Psychological Changes

While these physical transformations are happening, other changes take place. Hormonal changes coupled with sleep deprivation and the responsibility of caring for a newborn can lead to feelings of anxiety and depression. Emotional upheavals are common. Some women feel guilty because they don't instantly "fall in love" with their newborn. Some women focus solely on their role as a mother and then quickly begin to neglect their own needs.

Caring for a Newborn

There's also the actual task of caring for a new baby. For first-time mothers, it's a completely new world as they learn what's involved from spit-up to diapers. Sleep deprivation is typically the norm and even for the experienced mother it's a very different change of pace. Some women have the interesting task of taking care of multiples, while others face the challenges of caring for a premature baby, a low-birth weight infant, a baby with colic, or a special-needs infant.

Effective Individual Counseling Strategies for Women at All Life Stages

Since moms experience various challenges at all life stages, WIC staff need to be sensitive to a woman's family situation, and give her realistic suggestions that she can take home and put into practice. Here are some useful tips for counseling women, postpartum and beyond.

Observe

What does the mother's body language tell you? How is she relating to those around her? How does she interact with the baby or other children with her? Does she look like she is in pain?

Ask Open-Ended Questions

An open-ended question has a wide range of possible responses and the answer usually provides some insight and helpful information. A close-ended question on the other hand, typically results in a "yes," "no," or other limited response. Open-ended questions often begin with words such as "how," "why," "what," and "tell me about." For example:

"What kinds of things do you like to cook?"

"Tell me how breastfeeding has been going for you."

"What types of physical activities do you do during the day?"

"What's a good plan for you?"

"How are you feeling now that you're home with the baby?"

Varicose veins:
Swollen, twisted, and sometimes painful veins that have filled with an abnormal collection of blood when the vein valves do not function properly and the pooling of blood in a vein causes it to enlarge. This process usually occurs in the veins of the legs although it may occur elsewhere. Varicose veins are common and affect mostly women. Technically called secondary varicose veins when they occur because of another health condition, such as when a pregnant woman develops them.

FOR MORE INFORMATION
Refer to the Texas WIC **Infant Nutrition Module** for more information on what a new mother can expect when feeding her newborn.

Listen

Listen actively using your body language. Look at the mother and don't get distracted by forms, pamphlets, etc. Listen to what the mother says as well as the feelings behind her words. Listen for the hidden message. What's the real issue or challenge? Allow for silences. Listen for positives. What is good about what she is saying? Listen for topics she repeatedly brings up in the conversation.

Activity 5.2 — A WIC client is talking about her difficult birth experience while the nutritionist is finishing her VENA documentation. Is the nutritionist actively listening?

Another important part of listening is to repeat or rephrase the topics that you hear brought up often. It seems simple but it requires really listening to what the mom is telling you and repeating it back. This lets her know that you understand what she's saying to you and helps build a good counseling relationship. Reflective listening lets her know she can trust you with her experiences and the emotions surrounding them. Paraphrase what the mother says and try to reflect the message back.

For example:

- "You're wondering…"
- "You feel worried about…"
- "You've heard…"

You may need to ask questions to clarify what she says, using open-ended questions. For example:

- "What do you mean when you say…?"
- "I don't understand what you mean by…"

Validate or Affirm Her Feelings

After you find out what the main concern(s) are, you need to acknowledge that you've heard what she's saying and reassure her that it's okay for her to feel the way she does. This helps the participant feel comfortable talking to you and consequently more likely to interact, open up, and listen to your suggestions. Here are examples of statements that affirm or validate what a participant has said:

- "Many women feel the same way."
- "That's a common concern."
- "That's just how I felt."
- "A lot of new moms go through the same thing with their babies."

Activity 5.3 — How could you apply these counseling strategies to teen clients?

Empower/Educate

You need to provide information so that a participant can make an informed decision or select a course of action. It helps to list options and provide resources for further information. Engage her and give her an active role in identifying her unique issues and help her find her own solutions.

Keep it simple and uncomplicated. If you are too enthusiastic and offer too much information, your advice will sound complicated and you will waste valuable time. Research shows that adult learners are likely to resist information if they feel it doesn't pertain to them and their specific needs (Russell 2006). By limiting yourself to the concerns that the mother expresses, you will probably prevent yourself from going overboard.

Activity 5.4 – Refer to your Women's Health Workbook and complete the activity.

Bringing it All Together

When speaking to participants ask yourself, "Can this mother really use this information?" The key is to be sensitive to her individual situation and give her realistic suggestions that she can take home and put into practice. You can help WIC clients make healthier choices and positively impact their own health and the health of their families at any life stage by using these individual counseling strategies along with the information provided in this module.

Go to Part 5 Test — Use what you've learned in this part of the module to complete the corresponding test questions for Part 5. Record your final answers to the test questions on the *Women's Health Answer Sheets* located in the front of your workbook.

Glossary

aerobic exercise – Brisk physical activity that requires the heart and lungs to work harder to promote the circulation of oxygen through the body.

amniotic fluid – Amniotic fluid is a clear, slightly yellowish liquid that surrounds the unborn baby (fetus) during pregnancy. It is contained in the amniotic sac. It helps the developing baby to move in the womb and promotes proper bone growth and healthy lung development, keeps the temperature around the baby relatively constant, and protects the baby from outside injury by cushioning sudden blows or movements.

anemia – A condition in which the blood is deficient in red blood cells, in hemoglobin, or in total volume.

blood glucose – Sugar in the blood.

calorie – Unit of food energy. Refers to kilocalorie which represents the amount of energy needed to raise the temperature of 1 kilogram of water one degree Celsius from 15 degrees to 16 degrees.

client-centered – A style of counseling and nutrition education that encourages participants to play an active role in their own learning and allows staff to act as a guide or a facilitator.

contraception – Intentional prevention of contraception or impregnation through the use of various devices, agents, drugs, sexual practices, or surgical procedures.

endometrial cancer – Cancer of the womb (the uterus). Endometrial cancer occurs most often in women between the ages of 55 and 70 years. It accounts for about 6% of cancer in women.

episiotomy – An incision performed between the vagina and the rectum that is used to increase the size of the opening of the vagina to assist in delivery of a baby.

euphoria – Increased alertness and sense of relaxation.

fetal growth restriction/intrauterine growth restriction (IUGR) – The growth of the fetus is abnormally slow. When born, the baby appears too small for its gestational age. Intrauterine

growth restriction is associated with increased risk of medical illness and death in the newborn.

gallbladder disease – The gallbladder is a sac located under the liver. It stores and concentrates bile produced in the liver. Bile helps digest fat and is released from the gallbladder into the small intestine after eating a meal. Types of gallbladder disease include cholecystitis (inflammation of the gallbladder) and/or cholelithiasis (gallstones).

gestational diabetes – A form of diabetes mellitus that appears during pregnancy (gestation) in a woman who previously did not have diabetes and usually goes away after the baby is born.

gestational hypertension – High blood pressure that develops during pregnancy and may go away after delivery.

health outcomes – The measurement of the value of a particular course of therapy related to health. Health outcomes research is based on the principle that every clinical intervention produces a change in the health status of a patient and that change can be measured.

hemorrhoids – Painful, swollen veins in the lower portion of the rectum or anus. Hemorrhoids are very common, especially during pregnancy and after childbirth. They result from increased pressure in the veins of the anus. The pressure causes the veins to swell, making them painful, particularly when you are sitting. The most common cause is straining during bowel movements.

illicit – Not legally permitted or authorized.

incontinence – Inability to control excretions. Urinary incontinence is inability to keep urine in the bladder. Fecal incontinence is inability to retain feces in the rectum.

infertility – The diminished ability to conceive a child. In specific terms, infertility is the failure to conceive after a year of regular intercourse without contraception.

insulin – A protein hormone that is synthesized in the pancreas from proinsulin and secreted by the beta cells of the islets of Langerhans. Essential for the metabolism of carbohydrates, lipids, and proteins that regulate blood sugar levels by facilitating the uptake of glucose into tissues; by promoting its conversion into glycogen, fatty acids, and triglycerides; and by reducing the release

of glucose from the liver; and that when produced in insufficient quantities results in diabetes mellitus.

lactose intolerant – The inability to digest lactose. Lactose is a type of sugar found in milk and other dairy products.

longitudinal studies – Study done over the passage of time. For example, a longitudinal study of obesity in children might involve the study of 100 children with this condition from birth to 10 years of age. Also called a diachronic study. The opposite of a cross-sectional (synchronic) study.

neural tube – The hollow longitudinal dorsal tube that is formed by infolding and subsequent fusion of the opposite ectodermal folds in the vertebrate embryo and gives rise to the brain and spinal cord.

neural tube defects – A major birth defect caused by abnormal development of the neural tube, the structure present during embryonic life which gives rise to the central nervous system — the brain and spinal cord. Neural tube defects (NTDs) are among the most common birth defects that cause infant mortality (death) and serious disability.

nicotine – An alkaloid (nitrogen-containing compound) made by the tobacco plant or produced synthetically.

osteoporosis – Thinning of the bones with reduction in bone mass due to depletion of calcium and bone protein. Osteoporosis predisposes a person to fractures which are often slow to heal and heal poorly.

placenta – A temporary organ joining the mother and fetus, the placenta transfers oxygen and nutrients from the mother to the fetus, and permits the release of carbon dioxide and waste products from the fetus. It is roughly disk-shaped and at full term measures about seven inches in diameter and a bit less than two inches thick. The upper surface of the placenta is smooth while the under surface is rough. The placenta is rich in blood vessels. The placenta is expelled during the birth process with the fetal membranes; together, these structures form the afterbirth.

postpartum – After the birth of a child.

postpartum blues (baby blues) – Feelings of anxiety, irritation, tearfulness, and restlessness in the week or two after pregnancy.

Symptoms go away soon (usually 3 to 4 days, up to a couple weeks) without the need for treatment.

postpartum depression – Moderate to severe depression in a woman after she has given birth. It may occur soon after delivery or up to a year later. Symptoms do not go away within days or weeks and treatment is usually required.

postpartum psychosis – An acute mental illness that can affect a new mother. Includes symptoms of delusions, hallucinations, insomnia, agitation, and thoughts of infanticide and suicide.

preconception – Prior to becoming pregnant (fertilization or implantation or both).

relapse – Backsliding; return to behaviors of drug or alcohol use and abuse.

simple sugars – Simple sugars are also called simple carbohydrates. Simple carbohydrates are broken down quickly by the body to be used as energy. Simple carbohydrates are found naturally in foods such as fruits, milk, and milk products. They are also found in processed and refined sugars such as candy, table sugar, syrups, and soft drinks.

synthetic folic acid – A type of water-soluble B vitamin. It is the man-made (synthetic) form of folate that is found in supplements and added to fortified foods.

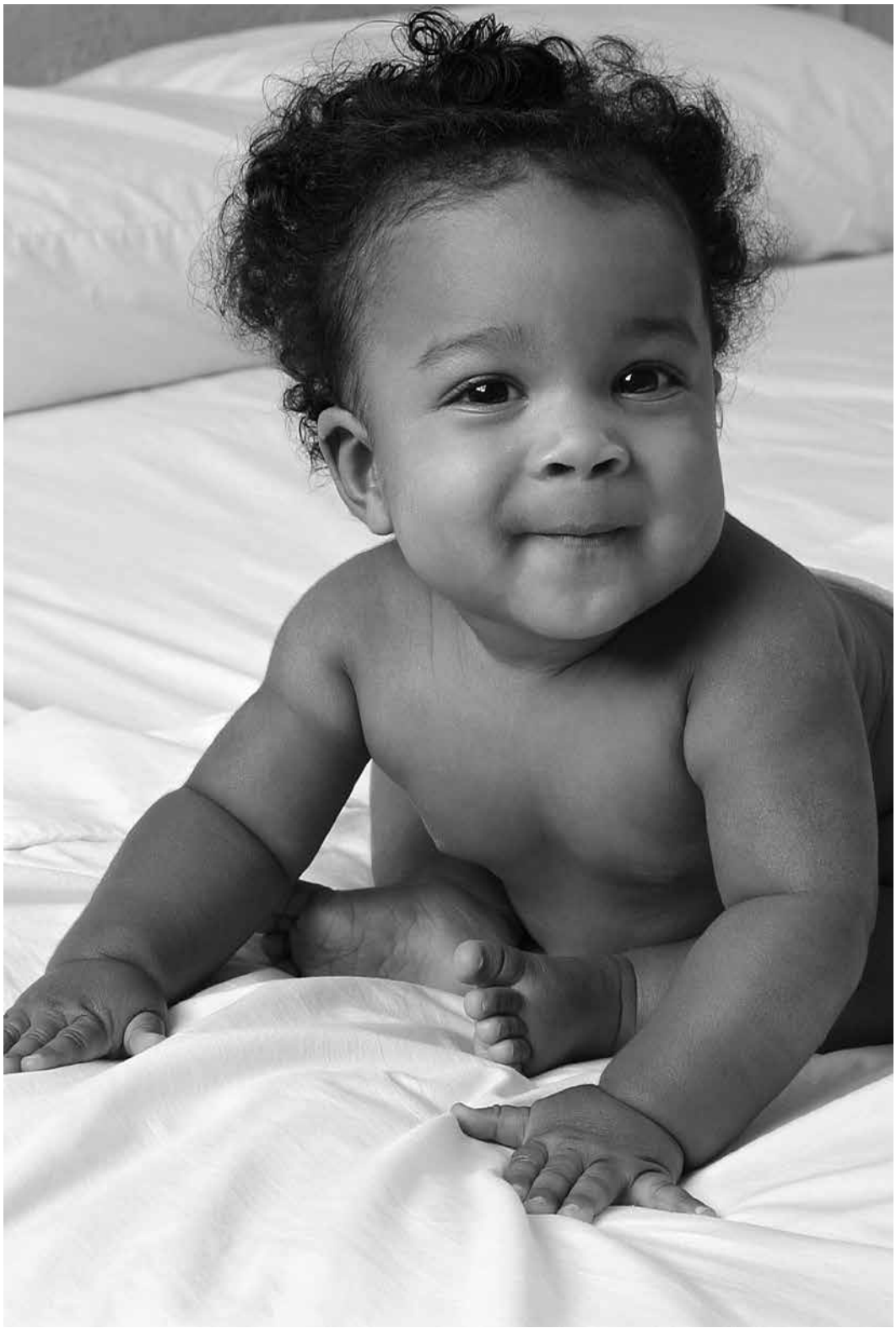
type 2 diabetes (T2DM) – Lifelong (chronic) disease in which there are high levels of glucose in the blood. T2DM is the most common type of diabetes.

uterine contractions – The tightening and shortening of the uterine muscles which, during labor, cause the cervix to thin and dilate (open) and help the baby to descend into the birth canal.

varicose veins – Swollen, twisted, and sometimes painful veins that have filled with an abnormal collection of blood when the vein valves do not function properly and the pooling of blood in a vein causes it to enlarge. This process usually occurs in the veins of the legs, although it may occur elsewhere. Varicose veins are common, and affect mostly women. Technically called secondary varicose veins when they occur because of another health condition, such as when a pregnant woman develops them.

wean – To withdraw; to accustom a child to food other than its mother's milk.

Glossary



References

American Academy of Pediatrics. (2011). New Mother's Guide to Breastfeeding (2nd ed.).

American Dietetic Association and American Society for Nutrition. (2009). Position of the American Dietetic Association and American Society for Nutrition: Obesity, Reproduction, and Pregnancy Outcomes. *J Am Diet Assoc.* 2009;109:918-927. doi: 10.1016/j.jada.2009.03.020.

American Dietetic Association & Schwartz, J. (2010). The science and art of coaching: what is working? Presentation to the 2010 ADA Food and Nutrition Conference and Expo. Retrieved from http//fnce.eatright.org/fnce/uploaded/6342266638502574 77-366.%20Schwartz.pdf.

American Lung Association. *Women and Tobacco Use*. Retrieved from: http://www.lung.org/stop-smoking/about-smoking/facts-figures/women-and-tobacco-use.html.

Baby Center Medical Advisory Board. Alcohol & Nursing Moms. Retrieved from: http://www.babycenter.com/0_alcohol-and-nursing-moms_3457.bc.

Brett, K., Barfield, W., & Williams, C. (2008). Prevalence of self-reported postpartum depressive symptoms—17 states, 2004-2005. 2008; 57(14):361-366.

Centers for Disease Control and Prevention. (2011, February). Iron and Iron Deficiency. Retrieved from http://www.cdc.gov/nutrition/everyone/basics/vitamins/iron.html.

Centers for Disease Control and Prevention. (2010, May). Pediatric and Pregnancy Nutrition Surveillance System Health Indicators. Retrieved from http://www.cdc.gov/pednss/what_is/pnss_health_indicators.htm.

Centers for Disease Control and Prevention. Prevalence of binge drinking. Retrieved from: http://www.cdc.gov/ncbddd/fasd/prevalence-text.html.

Centers for Disease Control and Prevention. (ND). Reproductive Health-Pregnancy complications. Retrieved from: http://www.cdc.gov/reproductivehealth/maternalinfanthealth/PregComplications.htm.

References

Centers for Disease Control and Prevention. (2011, January). Take 400 mcg of Folic Acid Today. Retrieved from http://www.cdc.gov/Features/FolicAcid/.

Centers for Disease Control and Prevention. (2005, September). Use of dietary supplements containing folic acid among women of childbearing age — United States, 2005. *CDC MMWR Weekly*, 54(38):955-958. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a4.htm.

D'Angelo, D., Williams, L., Morrow, B., Cox, S., Harris, N., Harrison, L., Posner, S.F., Hood, J.R., Zapata, L. (2007, December). Preconception and interconception health status of women who recently gave birth to a live-born infant. *Morbidity and Mortality Weekly Report*, 56(SS10):1-35.

Department of Health and Human Services. (2007). The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity. Retrieved from http://www.surgeongeneral.gov/topics/obesity/calltoaction/1_2.htm.

Ehrenberg, H.M., Dierker, L., Milluzzi, C., & Mercer, B.M. (2003). Low maternal weight, failure to thrive in pregnancy, and adverse pregnancy outcomes. *Am J Obstet Gynecol*. 2003;189(6):1726-1730. doi:10.1016/S0002-9378(03)00860-3.

Flegal, K.M., Carroll M. D., Ogden C.L., & Curtin L.R. (2010). Prevalence and trends in obesity among US adults, 1999-2008. *JAMA*. 2010;303(3):235-241. doi:10.1001/jama.2009.2014. Retrieved from http://jama.ama-assn.org/content/303/3/235.

Gunderson, E. (2009). Childbearing and Obesity in Women: Weight Before, During, and After Pregnancy. *Obstet Gynecol Clin North Am.*; 36(2): 317–332. doi: 10.1016/j.ogc.2009.04.001.

Guttmacher Institute. Facts on contraceptive use in the United States. In brief. [Fact sheet]. Retrieved from http://www.guttmacher.org/pubs/fb_contr_ use.html.

Honjo, K. & Siegel, M. (2003). Perceived importance of being thin and smoking initiation among young girls. *Tob Control*. 2003;12:289-295.

Huck, O., Tenenbaum, H., & Davideau, J.L. (2011). Relationship between periodontal diseases and preterm birth: Recent epidemiological and biological data. *J Pregnancy*. 2011; 2011:164654. doi:10.1155/2011/164654.

References

Institute of Medicine [IOM]. (2011). Dietary Reference Intakes for Calcium and Vitamin D. Retrieved from http://www.iom.edu/Reports/2010/Dietary-Reference-Intakes-for-Calcium-and-Vitamin-D.aspx.

Kost, K., Henshaw, S., & Carlin, L. (2010). United States teen pregnancies, births & abortions: national & state trends & trends by race & ethnicity. Guttmacher Institute.

Leddy, M.A., Power, M.L. & Schulkin. (2008). The impact of maternal obesity on maternal and fetal health. *Rev Obstet Gynecol.* 2008; 1(4): 170–178. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2621047/.

Mohrbacher, N. (2010). Breastfeeding answers made simple: a guide for helping mothers. Hale Publishing; 524-525.

National Campaign to Prevent Teen & Unplanned Pregnancy. Teen pregnancy. Retrieved from http://www.stayteen.org/teen-pregnancy.

National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention. Centers for Disease Control and Prevention. (January 2010). Women and Heart Disease [Fact Sheet]. Retrieved from http://www.cdc.gov/dhdsp/ data_statistics/fact_sheets/fs_women_heart.htm.

National Center for Health Statistics. (2007). Health, United States, 2007 with Chartbook on Trends in the Health of Americans. Hyattsville, MD: 2007.

Postpartum Support International. Postpartum psychosis. Retrieved from Postpartum Support International Web site: http://www.postpartum.net/Get-the-Facts/Postpartum-Psychosis.aspx.

Russell, S. (2006). An Overview of Adult Learning Processes. Society of Urologic Nurses and Associates. Retrieved from http://www.medscape.com/viewarticle/547417.

Sharma, A. (June 2008). Trends in the distribution of Body Mass Index among women of reproductive age. Presentation to: The Institute of Medicine of the National Academies and National Research Council Meeting #4: Implications of Weight Gain for Pregnancy Outcomes. Retrieved from http://www.iom.edu/~/media/Files/Activity%20 Files/Women/PregWeightGain/Sharma.pdf.

Siega-Riz, A.M. & Laraia, B. (2006). The implications of maternal overweight and obesity on the course of pregnancy and birth outcomes. *Matern Child Health J.* 2006;10:S153-S156. doi: 10.1007/ s10995-006-0115-x.

Smith, M. & Segal, J. Postpartum depression and the baby blues. Retrieved from http://helpguide.org/mental/postpartum_depression.htm.

References

Spahn, J.M., Reeves, R.S., Keim, K.S., Laquatra I., Kellogg, M., Jortberg, B., & Clark, N.A. (2010). State of the evidence regarding behavior change theories and strategies in nutrition counseling to facilitate health and food behavior change. *J Am Diet Assoc.* 2010;110:879-891. doi: 10.1016/j.jada.2010.03.021.

Strauss, R.S. & Dietz, W.H. Low maternal weight gain in the second or third trimester increases the risk for intrauterine growth retardation. *J Nutr*. 1999;129:988-993. Retrieved from http://jn.nutrition.org/content/129/5/988.full.

Substance Abuse and Mental Health Administration. (2007). Results from 2006 national survey on drug use & health: national findings. Office of Applied Studies, NSDUH Series H-32, DHHS, Publication No. SMA07-4293, Rockville, MD 2007.

Texas Department of State Health Services. (2005). Teen pregnancy and prevention.

Texas Department of State Health Services. (2011). VENA Counseling Framework. Retrieved from http://www.dshs.state.tx.us/wichd/nut/VENA/VENA-20Counseling-20Framework/VENA-20Counseling-20Framework.ppt

Tong, V.T., Jones, J.R., & Dietz, P.M. (2009). Trends in smoking before, during, and after pregnancy — pregnancy risk assessment monitoring system (PRAMS), United States, 31 sites, 2000-2005. MMWR Surveill Summ. 2009;58(4): 1-29.

U.S. Department of Agriculture & U.S. Department of Health and Human Services. (2010). Dietary Guidelines for Americans 2010. (7th Edition). Retrieved from http://www.cnpp.usda.gov/DGAs2010- PolicyDocument.htm.

U.S. Department of Health and Human Services. Illicit drug use. Retrieved from: http://mchb.hrsa.gov/whusa10/hstat/hb/pages/206idu.html.

Wilson, R.D., Johnson, J.A., Wyatt, P., Allen, V., Gagnon, A., Langlois, S., Blight, C., Audibert, F., Desilets, V., Brock, J.A., Koren, G., Goh, Y.I., Nguyen, P., Kapur, B.; Genetics Committee of the Society of Obstetricians and

References

Gynaecologists of Canada and the Motherrisk Program. Pre-conceptual vitamin/folic acid supplementation. (2007). The use of folic acid in combination with a multivitamin supplement for the prevention of neural tube defects and other congenital anomalies. *J Obstet Gynaecol Can*. 2007;29(12):1003-1026.

Wu, G., Bazer, F.W., Cudd, T.A., Meininger, C.J., & Spencer T.E. (2004). Maternal nutrition and fetal development. *J Nutr*. 2004;134:2169- 2172. Retrieved from http://jn.nutrition.org/content/134/9/2169. long.

Women's Health Module
Answer Key

Part 1 Test Answer Key

1. C
2. D
3. C
4. a. FALSE
   b. FALSE
5. D
6. D
7. D
8. D

Part 2 Test Answer Key

1. a. increasing
   b. 2 to 4 pounds
   c. more likely
   d. more likely
2. A
3. D
4. C
5. a. FALSE
   b. FALSE
   c. TRUE
6. B and E
7. B
8. D

Part 3 Test Answer Key

1. E
2. B
3. C
4. TRUE
5. FALSE
6. TRUE
7. C
8. D
9. A
10. B

Part 4 Test Answer Key

1. C
2. D
3. D
4. B
5. a. TRUE
   b. TRUE
6. TRUE, TRUE
7. E
8. E

Part 5 Test Answer Key

1. Closed/Open questions:
   a. Close-ended
   b. Open-ended
   c. Open-ended
   d. Close-ended
   e. Close-ended
   f. Open-ended
2. C and F
3. B
4. D
5. FALSE
6. FALSE
7. TRUE
8. D
9. TRUE
10. TRUE

Nutrition Services Section
Nutrition Education / Clinic Services Unit
Texas Department of State Health Services
Stock number 13-42

A companion publication, Women's Health Module Workbook,
stock number 13-42-1, is also available from DSHS.