COMMUNITY COLLEGE OF RHODE ISLAND
Nursing Program
ADNU 2050

NUTRITION FOR CHILDBEARING AND INFANCY
Learning Activity Guide

OBJECTIVES: Upon completion of this learning activity, the student will be able to:

1. Describe common nutritional guidelines used to advise health women on recommended eating patterns to provide optimum nutrition.
2. Discuss common factors that influence a woman's nutritional status and choices.
3. Identify at least two nutritional risk factors during pregnancy.
4. Compare the nutritional needs of the pregnant woman to the nonpregnant woman.
5. Compare the nutritional needs of the lactating postpartum woman to the non-lactating postpartum woman.
6. Discuss the changing nutritional needs of the infant.
7. State at least two nursing diagnoses that relate to nutrition during childbearing and infancy.
   a. Determine a NOC-based outcome for each nursing diagnosis.
   b. Identify at least two NIC-based interventions to accompany each nursing diagnosis.

ASSIGNMENT:
Read: Ricci, Chapter 12, pp. 288-292
Ball & Bindler, Chapter 9
View: OB-117 “Diet During Pregnancy” (24 min)
OB-118 “Benefits of Breastfeeding (24 min)
OB-120 “Formula Feeding” (24 min)
Complete: Learning Activities, pp. 12-15

OUTLINE

I. PRINCIPLES OF NUTRITION

A. TYPES OF NUTRIENTS

1. NUTRIENTS THAT SUPPLY CALORIES (ENERGY NUTRIENTS)
   a. Carbohydrates (4 calories/gram)
   b. Protein (4 calories/gram)
   c. Fat (9 calories/gram)
2. NUTRIENTS THAT REGULATE BODY PROCESSES (REGULATORY NUTRIENTS)
   a. Vitamins
   b. Minerals
   c. Water

B. NUTRITIONAL GUIDELINES

1. DIETARY GUIDELINES FOR AMERICANS
   - Aim for a healthy weight
   - Use "Food Pyramid" to guide choices
   - Eat a variety of grains, especially whole grains
   - Eat a variety of fruits and vegetables
   - Prepare and store food safely, i.e. wash, prepare, refrigerate and freeze food according to safety guidelines

- Limit saturated fats, cholesterol, total fat intake
- Limit sugar intake
- Choose foods with less salt
- Drink alcohol in moderation
- Be physically active daily

2. FOOD GUIDE PYRAMID

C. FACTORS THAT INFLUENCE NUTRITION

1. CULTURAL, ETHNIC, RELIGIOUS DIFFERENCES
   - African-American diet can be low in fresh fruits & vegetables and iron-deficient
   - Native Americans (currently) eat little meat, decreased fruit & vegetable intake
   - Southeast Asians have high sodium diet, decreased milk intake
   - Mexican American foods are hot & spicy, high in calories & fat
   - Puerto Rican diet tends to be low in milk, milk products

2. AGE

   a. ADOLESCENCE
      - if not fully physically mature, will need nutritional support for own growth needs; should gain 28-40 lbs if less than 2 years post-menarche
      - typical diet is usually low in important vitamins and minerals, especially iron, and will require supplementation; compliance is an issue
      - peer pressure, body image (wt gain), fad diets affect nutritional status
      - tendency to skip meals and eat fast foods affects nutritional status

   b. OLDER WOMAN
      - may have increased knowledge of nutrition through life experiences so may need less teaching
      - more likely to be financially secure

3. SOCIOECONOMIC STATUS
   - lower socioeconomic status is associated with deficient diets due to lack of financial resources
   - diet is usually high in carbohydrate calories, low in dairy, meats, fresh fruits & vegetables
   - WIC provides milk, cheese, eggs, iron-fortified cereal, juice & dried beans to women & their children up to age 5

4. VEGETARIANISM
   - adequate protein is a major concern; need to carefully combine plant sources of proteins to obtain complete proteins, e.g. beans with rice,
   - meeting calcium needs is difficult for vegan who does not drink milk; can

obtain calcium from vegetables but high fiber interferes with calcium absorption; should drink soy milk
- iron supplementation is required
- zinc supplementation is usually required (best sources are meat & fish)
- B_{12} comes only from animal sources - must eat soy products fortified with B_{12}
- Vitamin A is abundant in vegan diet - watch for toxicity (anorexia, hair loss, irritability, dry skin)

5. LACTOSE INTOLERANCE
   - calcium deficiency is major issue because foods high in lactose include milk and milk products; alternate sources of calcium include: calcium-fortified o.j., green leafy vegetables
   - can take lactase before ingesting milk or buy lactase-treated milk

6. N/V ASSOCIATED WITH PREGNANCY
   - small, frequent meals vs. three large meals is usually better tolerated
   - complex carbs, proteins tolerated well, fatty foods increase nausea

7. EATING DISORDERS
   - anorexia/bulimia may be reactivated by normal wt gain in pregnancy - consider counseling

8. PICA = persistent eating of non-food substances such as clay, dirt, solid laundry starch, freezer frost, burnt matches, ashes, etc.
   - iron-deficiency is most common concern with pica
   - constipation may be caused by clay, starch

9. SUBSTANCE ABUSE
   - expense of supporting a substance abuse habit decreases money available for food
   - smoking decreases availability of vitamins & minerals to fetus
   - caffeine may decrease calcium, iron, zinc absorption
   - alcohol interferes with nutrient absorption
   - drugs interfere with action of some nutrients; cocaine and amphetamines suppress appetite
   - ↑ caffeine (more than 300 mg/day, i.e. 3-4 c. coffee) → ↑ risk SGA infant

II. NUTRITIONAL REQUIREMENTS

A. NUTRITIONAL NEEDS FOR PREGNANCY

1. ENERGY NUTRIENTS
   - calories = energy value of food
   - calories come from energy nutrients: carbohydrates, proteins, fats
   - increase in RDA for calories in first trimester = 0***; increase 200 to 300 (nutrient dense) cal/day for 2nd & 3rd trimesters***

- caloric intake for average active young adult pregnant female is approx 2500 cal/day

a. CARBOHYDRATES (4 cal/gram)
   - food sources: fruits & vegetables, dairy (simple carbs), grains (complex carbs), fiber
   - 50-60% of caloric intake should come from carbs, i.e. 1250 - 1500 carbohydrate (313 g. - 375 g.) calories for average active young adult pregnant female requiring 2500 total cal/day
   - increase in caloric intake from carbs during pregnancy should come from milk/dairy group (also provides protein and calcium)
   - *sufficient carbs are needed to keep protein available for fetal/maternal growth needs*

b. ***PROTEIN*** (4 cal/gram)
   - high quality proteins come from animal products: fish, meat, poultry, eggs, dairy
   - non-animal sources include soy products, tofu, beans, nuts
   - 10-20% of caloric intake should come from protein
   - RDA = 45-50 g for prepregnant woman; 60 g during pregnancy
   - increase in protein can be easily met by adding 1 cup milk and 1 ounce of meat to prepregnant diet
   - *proteins are needed to provide amino acids for fetal development, blood volume expansion, and growth of maternal tissue*

c. FAT (9 cal/gram)
   - prudent food sources include: lean cuts of meat, fish, poultry, low-fat dairy products
   - no more than 30% of caloric intake should from fat (less than 10% should come from saturated fats), i.e. for a 2500 total cal/day diet no more than 750 calories should come from fat (83 g.)
   - no increase in fat needs during pregnancy

2. REGULATORY NUTRIENTS

a. VITAMINS

1) Water-Soluble Vitamins

a) VITAMIN C
- food sources: citrus, broccoli, cantaloupe, potatoes
- nonpregnancy RDA = 65 to 75mg; RDA for pregnancy = 80mg; RDA for lactation = 115 to 120 mg
- needed for formation & development of vascular system & connective tissue; converts folate (precursor to folic acid) to active form

b) ***B VITAMINS - needed for cell function, metabolism; folic acid promotes fetal growth, prevents megaloblastic anemia of pregnancy; deficiency of folic acid associated with NTD's***

B Vitamin	**Nonpreg Needs**	**Preg Needs**	**Lactation Needs**	**Food Sources**
B_1 (thiamine)	1.1 mg	1.4 mg	1.4 mg	Pork, liver, milk, bread, cereal
B_2 (riboflavin)	1.4 mg	1.4 mg	1.6 mg	Pork, milk, beef, bread, cereal
Niacin	14 mg	18 mg	17 mg	Meat, fish, poultry
Folic acid	**400 mcg**	**600 mcg***	**500 mcg**	**Leafy veg, fruits, liver, milk, eggs, kidney beans, black beans, pinto beans, refried beans, whole grains, fortified breads & cereals**
B_6 (pyridoxine)	1.2-1.3 mg	1.9 mg	2.0 mg	Fish, liver, pork, wheat germ
B_{12} (cobalamin)	2.4 mcg	2.6 mcg	2.8 mcg	Meat, eggs, dairy **(animal sources only!)**

*** may require supplementation**

2) Fat-soluble vitamins

a) VITAMIN A - sources include milk, eggs, butter, fish oils; green and yellow vegetables; needed for fetal growth, cellular differentiation; RDA = 800mcg; no increased need in pregnancy (maternal stores adequate); RDA for lactation = 1300mcg; toxicity associated with spontaneous abortion

b) VITAMIN D - sources include fortified milk, margarine, eggs, butter, soy, cereals, sunlight; needed for calcium absorption and bone mineralization; no increased need in pregnancy or lactation; RDA = 5mcg (200 IU); toxicity associated with fetal deformities

c) VITAMIN E - sources include vegetable oils, nuts, grains, green leafy vegetables; needed for tissue growth, cell integrity; nonpreg RDA = 15mg; RDA for preg = 5mg; RDA for lactation =19mg

d) VITAMIN K - sources include green leafy vegetables; needed for normal blood clotting; RDA = 65mcg; no↑ needed for pregnancy/lactation

b. MINERALS

1) ***Iron***
- food sources include: meat, fish, liver, eggs, legumes, green leafy veg, whole grains, nuts, tofu, prunes; takes large amounts to provide enough iron by diet alone - supplementation (30 mg elemental iron) usually required
- non pregnancy RDA = 15mg; RDA for pregnancy = 30mg
- increase demands for iron is related to expanded maternal blood volume and fetal needs

2) ***Calcium*** and phosphorous
- calcium sources include: milk, dairy, legumes, nuts, dried fruits, dark green leafy veg except spinach which contains oxalates that decreases Ca++ availability
- phosphorous sources include calcium sources, meat, eggs (NOTE: highly processed foods and carbonated beverages are high in phosphorous and should be avoided - should maintain a 1:1 ratio of calcium to phosphorous**)**
- **Ca++:** nonpregnancy RDA = 1000 (>18y.o.) to 1300mg (<18y.o.); RDA for pregnancy/lactation = 1000 (>18y.o.) to 1300mg (<18y.o.);
- needed for mineralization of bones & teeth, A/B balance, neural transmission
- PO_4 : nonpregnancy/pregnancy/lactation RDA 700mg (>18y.o.) to 1250 mg (< 18y.o.)

3) Iodine
- needs met by use of iodized salt
- non pregnancy RDA = 150mcg; RDA for pregnancy = 175mcg; RDA for lactation = 200mcg
- needed for synthesis of thyroid hormone

4) Magnesium
- sources include milk, whole grains, nuts, legumes
- nonpregnancy RDA = 310 (>18y.o.) to 360mg (<18y.o.); RDA for pregnancy = 360 (>18y.o.) to 400mg (<18y.o.); RDA for lactation = 310 (>18y.o.) to 360mg (<18y.o.)
- needed for cellular metabolism, structural growth

5) Zinc
- sources include meats, seafood, egg yolks, milk
- nonpregnancy RDA = 12mg; RDA for pregnancy = 15mg; RDA for lactation = 19mg

- needed for DNA/RNA synthesis

6) Sodium
   - deficiency is unlikely; sources with high sodium content (processed foods, canned foods) should be consumed in moderation
   - avg intake is approx 4-6 g. per day
   - needed for regulation of fluid balance

c. WATER
   - prepregnancy needs - 6-8 8 ounce glasses per day; needs during pregnancy - 8-10 8 ounce glasses per day; lactating needs - 10-12 8 ounce glasses per day
   - half of fluid intake should be plain water; other half should be noncaffeinated beverages
   - essential for biochemical reactions

3. FOOD GUIDE PYRAMID

a. GRAINS - prepregnancy needs = minimum of 6 servings; minimum of 7 servings for pregnancy & lactation
b. FRUITS & VEGETABLES - prepregnancy and pregnancy/lactation needs = minimum 5 servings
c. DAIRY - prepregnancy needs = minimum of 2 servings; pregnancy needs = minimum of 3 servings; lactation needs = minimum 3 servings
d. PROTEINS - prepregnancy needs = minimum 5-6 ounces (2 - 3 servings); pregnancy/lactation needs = minimum 7 ounces
e. SWEETS, FATS, CONCENTRATED SUGARS - prepregnancy needs - use sparingly; pregnancy/lactation - 3 tsp of unsat fats

4. OTHER RECOMMENDATIONS

- Wash all fruits & vegetables
- Eat no raw fish from contaminated waters
- No alcohol one month prior to conception
- Limit caffeine (2-3 servings per day, 300 mg maximum)
- Moderate use of artificial sweeteners
- Avoid herbal supplementation
- OTC's only with practitioner approval

B. POSTPARTUM NUTRITION

1. NUTRITIONAL CARE OF NON-NURSING MOTHERS
   - return to prepregnant diet as long as it is well-balanced
   - if wt gain is excessive during pregnancy should have nutritional counseling by a dietician for wt reduction
   - may need iron supplement if Hgb is low (norm = 12-16 nonpreg; 11-12 pregnancy)

2. NUTRITIONAL CARE OF NURSING MOTHERS
   - ***increase caloric intake by 500 calories over prepregnant diet; underweight women or women who did not gain enough during pregnancy should increase caloric intake by 650 calories per day***
   - increase protein intake to 65g
   - continue with 1000-1300mg calcium (amt depends on age)
   - fluid requirements = 10-12 8ounce glasses (half should be plain water)
   - wt loss should be no more than 1 lb per week
   - limit caffeine to 2 servings or less per day
   - avoid alcohol
   - limit artificial sweeteners
   - continue with prenatal vitamin & mineral supplement
   - avoid herbal supplements
   - vegans need B_6 and B_{12} supplements

C. NUTRITION DURING INFANCY

1. CALORIC REQUIREMENTS
   - Birth - 120 cal/kg/day
   - 1 y.o.- 100 cal/kg/day
   - Standard formulas contain 20 cal/oz

   NOTE: Iron supplementation is not needed until 4 months of age. Breastfed infants will need iron supplementation as long as they are breastfed.

2. INTRODUCTION OF SOLID FOODS
   - Usually begins at 4-6 months of age (assess readiness for solids)
   - Start with rice cereal (easy to digest, ↓ allergic potential)
   - Introduce one new food at a time at 4-7 day intervals
   - Pale colored vegetables/fruit before darker colors
   - Avoid highly allergic foods in first year (chocolate, strawberries, citrus, peanut butter, shellfish, egg whites, tomatoes, corn, wheat, nuts)
   - Avoid hazardous foods (nuts, popcorn, meat chunks, chips, pretzels, grapes, carrots, hard candies, sticky foods like peanut butter, caramel

3. WEANING
   - A process that takes place over time
   - Child is ready when need to be held during feeding decreases, displays self-feeding behaviors

III. APPLICATION OF THE NURSING PROCESS

A. ASSESSMENT

1. PREGNANCY
   a. INTERVIEW - assess appetite, eating habits, food preferences, culture and religious factors

b. DIET HISTORY - check 24-hour intake

c. PHYSICAL ASSESSMENT
- baseline ht & wt
- calculate body mass index (BMI) to determine appropriate wt gain
- look for signs of nutritional deficiency

2. LACTATION - assessment of:
- breasts/nipples
- knowledge of breastfeeding
- breastfeeding technique

3. INFANCY - assessment of height & weight & typical intake at routine health screening visits

B. ANALYSIS/NURSING DIAGNOSIS

1. IMBALANCED NUTRITION: LESS THAN BODY REQUIREMENTS
2. IMBALANCED NUTRITION: MORE THAN BODY REQUIREMENTS
3. INEFFECTIVE BREASTFEEDING
4. DEFICIENT KNOWLEDGE

C. PLANNING: NOC-BASED OUTCOMES

1. DEMONSTRATE OPTIMAL NUTRITIONAL STATUS AS EVIDENCED BY APPROPRIATE WEIGHT GAIN

a. Appropriate Weight Gain during Pregnancy
- average size - 25-35 lbs total; 3.5 lbs 1st trimester; approx 1 lb per wk 2nd & 3rd trimesters
- 10% underweight - 28-40 lbs total; 5 lbs 1st trimester; 1.1 lb per wk 2nd & 3rd trimesters
- 20% overweight - 15-25 lbs total; 2 lbs 1st trimester; < 1 lb per wk 2nd & 3rd trimesters
- twin pregnancy - 35-45 lbs total; 6 lbs 1st trimester; 1.5 lbs per wk 2nd & 3rd trimester

b. Distribution of Weight Gain During Pregnancy
- 12-13 lbs - fetus, placenta, amniotic fluid
- 2 - 2.5 lbs - uterus
- 3.5 - 5 lbs - increased blood volume
- 1.5- 3 lbs - increased breast tissue
- 5-10 lbs - maternal stores

c. Appropriate Weight Gain During Infancy
- during 1st 6months - birth weight doubles (gains 1.5 lbs/month or 5-7 oz/wk; height increases 1 inch/month
- during 2nd 6 months - gains 3-5 oz/wk; height increases 1/2 inch/month

2. ACHIEVE EFFECTIVE BREASTFEEDING
   Breastfeeding should be strongly encouraged as benefits include:
   - ↑ antibodies
   - ideal protein content
   - ideal profile of amino acids
   - appropriate cholesterol and lipid levels
   - increased maternal-infant bonding
   - immunologic protection
   - allergy prophylaxis

3. EXPLAIN NUTRIENT REQUIREMENTS During:
   a. Pregnancy
   b. Lactation
   c. Infancy

D. IMPLEMENTATION: NIC-BASED INTERVENTIONS

1. NUTRITION MANAGEMENT
   a. PREGNANCY
      - Nutritional counseling
      - Make referral to dietician as needed
      - Make referral to SW as needed
      - Dietary supplementation for those unable to consume appropriate amounts of nutrients or those in High-Risk groups, including multips (frequent & closely spaced pregnancies), and multifetal pregnancies
      - OTC vitamin and mineral preparations are readily available

   b. LACTATION teaching to include:
      - Nurse 10-15 minutes each side (up to 30 minutes each side)
      - Burp baby between breasts and at end of each feeding
      - Rotate nursing positions (cradle, football hold, side-lying position)
      - Newborn's lips encircle areola
      - Release suction by placing finger in side of infant's mouth

   c. INFANCY
      - BF or FF only for 1st 4-6 months for healthy infants
      - Bottle Feeding teaching to include:
        - Formula should be iron-fortified
        - Formula comes in three forms: ready-to-feed, concentrated liquid, powder - FOLLOW manufacturer's instructions!
        - Refrigerate opened formulas and use within 48 hours
        - Ready to feed bottles can be used at room temperature - use within one hour after opened
        - Do NOT heat bottles in microwave!!
        - Maximum feeding time is 30 minutes
        - Burp halfway through and at end of feeding
        - Avoid allowing infant to sleep with bottle

2. BREASTFEEDING ASSISTANCE

3. TEACHING NUTRITIONAL NEEDS/FOOD SOURCES
   a. Pregnancy

   b. Lactation

   c. Infancy

E. EVALUATION OF OUTCOME ACHIEVEMENT

1. Demonstrates Optimal Nutritional Status as Evidenced by Appropriate Weight Gain During Pregnancy . . . positive outcomes include: compliance with RDA's, 3 to 4 lb weight gain in 1st trimester with 1 lb weight gain in 2^{nd} and 3^{rd} trimesters
2. Demonstrates Optimal Nutritional Status as Evidenced by Appropriate Weight Gain During Infancy . . . positive outcomes include: gains 1.5 lbs per month in first 6 months
3. Acheives Effective Breastfeeding . . . positive outcomes include: breasts soft after nursing, absence of nipple tenderness, 6-10 wet diapers per day with soft yellow stools, appropriate weight gain
4. Explains Nutrient Requirements During Pregnancy . . . positive outcomes include: states requirements for most important nutrients, such as protein, folic acid, iron, calcium
5. Explains Nutrient Requirements During Lactation. . . positive outcomes include: states nutritional guidelines for nursing mothers
6. Explains Nutrient Requirements During Infancy . . . positive outcomes include: states caloric requirements; states guidelines for bottlefeeding; states guidelines for introduction of solid foods

LEARNING ACTIVITIES

1. Complete the table below by indicating RDA during pregnancy and lactation, describing importance and listing major food sources for each nutrient.

Nutrient	RDA	Importance	Food Sources
Protein			
Iron			
Calcium			
Zinc			
Fat-soluble Vits (A,D)			
Water-soluble Vits (folic acid, C)			

2. Identify five indicators of nutritional risk in pregnancy.

3. Indicate two major considerations that the nurse must keep in mind when planning menus for a pregnant woman who is a strict vegetarian (vegan).

4. *True or False:* Circle "T" if true or "F" if false for each of the following statements.

T F a. Good maternal nutrition before and during pregnancy is considered to be one of the most important preventive measures against low birth weight (LBW) babies.

T F b. Reviewing a pregnant woman's daily nutrition diary is the best way to determine if she is obtaining an adequate number of calories to support the physiologic adaptations of pregnancy.

T F c. A woman whose BMI indicates that she is underweight should gain approximately 28 to 40 pounds overall.

T F d. Adolescents, especially those who are less than 2 to 3 years past menarche, are at greatest nutritional risk since their growth is in competition with that of the fetus for nutrients.

T F e. A caloric increase of 300 calories per day is recommended for pregnant women beginning in the first trimester.

T F f. If a pregnant woman's intake of iron is inadequate, her fetus will be born anemic with impaired iron stores.

T F g. Moderate peripheral edema that occurs during pregnancy can be significantly reduced by following a low-sodium diet.

T F h. Excessive intake of fat-soluble vitamins such as vitamin A during pregnancy can result in toxicity, leading to congenital malformations of the fetus.

T F i. Development of neural tube defects appears to be more common in the fetuses of pregnant women whose diet is low in folic acid.

T F j. Dehydration can stimulate the onset of premature labor.

5. *Crossword Puzzle*: Complete the puzzle on p.15.

6. *Critical Thinking Exercises:* Select one of the following case studies (as assigned by instructor) and prepare for clinical conference to discuss important areas of consideration and therapeutic approaches you would use for the given situation.

   a. Alice (5 ft. 8 in., 130 lbs) complains to you that her physician recommended a weight gain of approximately 30 pounds during her pregnancy. She states, "Babies only weigh about 7 pounds when they are born! Why do I have to gain much more than that?"

b. Sharon (5 ft. 4 in., 125 lbs) has just found out that she is pregnant. She states, "I am so glad to be pregnant. I love to eat, and now I can start eating for two. It will be great not to have to watch the scale or what I eat."

c. Jane tells you that she does not have to worry about her nutrient intake during her pregnancy. "I take plenty of vitamins - every from A to Zinc!"

d. Mary is 7 months pregnant. She asks you if it is okay to take sodium bicarbonate for the heartburn she experiences after meals, especially dinner.

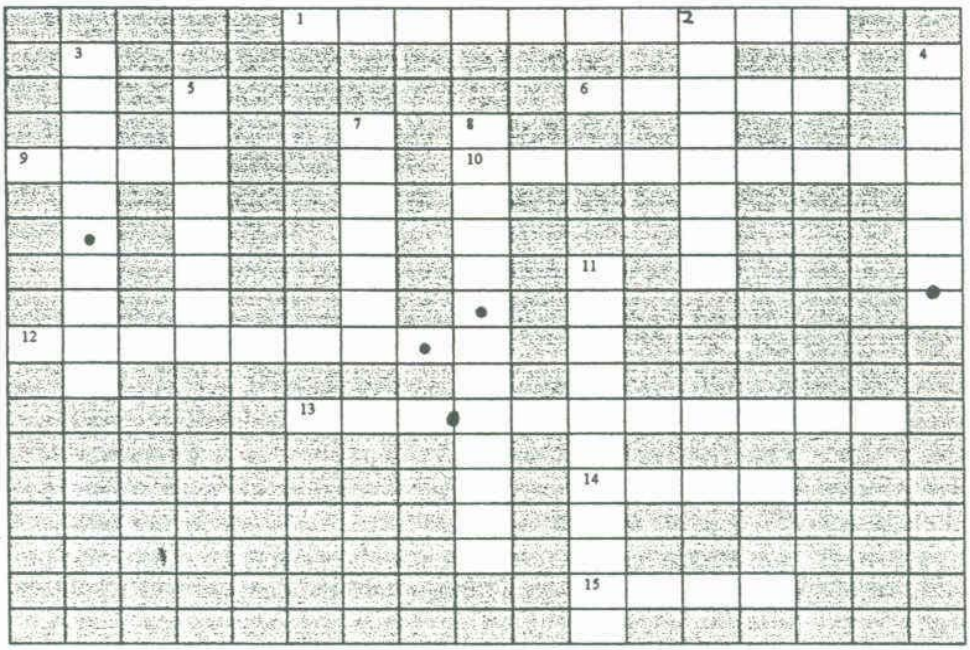
e. Alexa (BMI = 28.7) is one month pregnant. She asks you for dietary guidance, including a weight reduction diet since she does not want to gain too much weight with this pregnancy.

f. Sara is 2 months pregnant. She states, "I have cut down on my water intake. I do get a little thirsty, but it is worth it since I do not have to urinate so often."

g. Hedy is 2 months pregnant and has come for her second prenatal visit. During a discussion about nutritional needs during pregnancy, she states, "I know I will not get enough calcium because I get sick when I drink milk."

h. Louise is 36 weeks pregnant. She states that she would like to breastfeed her baby but is concerned about getting back into shape and losing weight after the baby is born. "My friends told me that I will lose weight more slowly since I will not be able to start on a weight reduction diet as long as I am breastfeeding."

PREGNANCY



ACROSS CLUES:

1. Careful prenatal _____ is the key to preventing pregnancy-induced hypertension.
6. Constipation in pregnancy is prevented by up to 30 grams of dietary fiber and adequate____.
9. Craving to ingest nonfood substances such as laundry starch and clay.
10. Obstetrical emergency involving hypertension, edema, proteinuria, and convulsions after 20th week.
12. Supplements of this nutrient are contraindicated during the first trimester of pregnancy.
13. Classic treatment for morning sickness is eating ___ before arising.
14. Nutrient needed for mother's red blood cells as well as those of the fetus.
15. Active TB or _____ in the mother are absolute contraindications to breast feeding.

DOWN CLUES:

2. Erikson's psychosocial development task of young adults.
3. Nutrient demonstrated to help prevent neural tube defects.
4. This nutrient activates folic acid, enhances iron absorption, and helps form connective tissue.
5. The _____ is able to convert inactive vitamin D to the active form.
7. A pregnant woman's urine is checked for ___ to detect preeclampsia.
8. A child with _____ syndrome has characteristic facial features, poor growth, and retardation.
11. Exaggerated resistance to insulin that develops in the pregnant woman's tissue is ___ diabetes.

Learning Activities adapted from:
Lowdermilk, D., Perry, S., Bobak, I. *Maternity & Women's Health Care, 6th ed.* St. Louis: C.V. Mosby Co., 1997.

Lutz, C. and Przytulski, K. *Instructor's Guide for Nutrition and Diet Therapy, 2nd ed.* Philadelphia: F.A. Davis Co.,1997.

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1/98, revised 10/98, revised 10/01, revised 7/02, revised 5/03, revised 8/04, Revised 8/06