Chapter 25

Health Promotion and Pregnancy

Physiology of Pregnancy

- **Fertilization**
  - Fertilization takes place when the sperm joins or fuses with the ovum; this is called *conception*.
  - Once fertilization has occurred, the new cell is referred to as a *zygote* or *fertilized ovum*.
  - At the moment of fertilization, the sex of the zygote and all other genetic characteristics are determined and they do not change.

Physiology of Pregnancy (Cont.)

- **Implantation**
  - The zygote is in a phase of rapid cell division called *mitosis*; further changes result in formation of a structure called the *morula*.
  - The condition of the uterine lining is critical if implantation of the zygote is to occur.
  - Usually occurs in the fundus of the uterus on either the anterior or posterior surface.
Physiology of Pregnancy (Cont.)

- Embryonic/fetal development
  - During this period, the fertilized ovum develops from the two original cells into a many-celled organism
  - A simple heart begins beating, and rudimentary forms of all of the major organs and systems develop
  - By the end of this stage, the embryo has acquired a human appearance

- Embryonic/fetal physiology
  - Placenta
  - Fetal membranes
  - Umbilical cord
  - Amniotic fluid

- Fetal well-being
  - A variety of tools can be used to evaluate maternal and fetal well-being
Maternal Physiology

- Hormonal changes
  - Estrogen and progesterone levels elevated for the first 8 weeks of pregnancy
  - As long as these levels are high, follicle-stimulating hormone (FSH), luteinizing hormone (LH), and ovulation are suppressed, as is menstruation

Maternal Physiology (Cont.)

- Uterus
  - Enlarges during pregnancy
  - Weight increases from about 50 g to 1000 g
  - Moves from pelvic region to the level of the xiphoid process

Maternal Physiology (Cont.)

- Breasts
  - There is hypertrophy of the mammary glandular tissue and increased vascularization, pigmentation, size, and prominence of nipples and areola
  - Changes are caused by hormonal stimulation
Maternal Physiology (Cont.)

- Maternity cycle
  - Antepartal or prenatal period
  - Intrapartal or perinatal period
  - Postpartal period

Antepartal Assessment

- General physical assessment
  - Ideally, the woman has been receiving regular medical attention and is already known by the health care provider
  - Unfortunately, many people do not receive regular, routine health care
  - On the first visit, demographic data such as age, occupation, marital status, and insurance information are obtained; this helps the primary care practitioner identify potential areas of concern
  - A basic family and personal medical history is obtained; it should include genetic diseases

Antepartal Assessment (Cont.)

- Genetic counseling
  - The most useful means of reducing the incidence of genetic disorders is by preventing their transmission
  - With the accumulation of information about genetic disorders, the probability of recurrence in any given situation can be predicted with increased accuracy
  - A personal medical history is taken and a review of systems is done
  - Lifestyle patterns are assessed
  - A basic physical examination is completed
Antepartal Assessment (Cont.)

- Obstetric assessment
  - Information about the woman’s gynecologic, menstrual, and obstetric history is obtained
  - The number of pregnancies and their outcomes are discussed
- Gynecologic examination
  - The gynecologic examination is also performed at this time
  - The nurse is often called on to prepare the necessary equipment and assist with this examination

Determination of Pregnancy

- Presumptive signs
  - Amenorrhea
  - Nausea and vomiting
  - Frequent urination
  - Breast changes
  - Changes in shape of the abdomen
  - Quickening
  - Skin changes
  - Chadwick’s sign

Determination of Pregnancy (Cont.)

- Probable signs
  - Changes in the reproductive organs
    - Hegar’s sign
    - Goodell’s sign
    - Ballottement
  - Positive pregnancy test
Determination of Pregnancy (Cont.)

- Positive signs
  - Visualization
  - Fetal movement
  - Auscultation of fetal heartbeat

Determination of Pregnancy (Cont.)

- Determination of the estimated date of birth
  - Normal human pregnancy is about 280 days, 40 weeks, or 10 lunar months
  - Nägele’s rule
    - Start with the first day of the woman’s last menstrual period and count back 3 months; then add 7 days

Determination of Pregnancy (Cont.)

- Determination of the estimated date of birth
  - If the woman does not keep a menstrual record, the primary care provider must then rely on observations such as quickening, estimation of fetal size by palpation, or ultrasonic tests, all of which can be unreliable
Determination of Pregnancy (Cont.)

- Obstetric terminology
  - Terms used to describe the number of times a woman has been pregnant and given birth
    - Gravida: indicates a pregnant woman
    - Primigravida: one pregnancy
    - Nulligravida: no pregnancies
    - Multigravida: multiple pregnancies
    - Primipara: one birth
    - Nullipara: no births
    - Multipara: multiple births
    - Abortion: indicating loss of a fetus before the age of viability

Question 1

Which sign is most indicative of pregnancy?
1. Amenorrhea
2. Nausea and vomiting
3. Quickening
4. Enlargement of the uterus

Question 2

A nurse is getting a patient’s obstetric history using the TPAL system. The patient has been pregnant a total of five times, but two of her babies were stillborn at term. The remaining three children were born early and are currently alive. What rating should this woman receive?
1. 5-2-3-0-3
2. 5-0-3-2-3
3. 2-3-0-3
4. 3-2-0-3
Question 3

A health care provider notes in a patient’s chart that she is primigravida. What does the nurse understand from this comment?

1. The woman is pregnant for the first time.
2. The woman is pregnant for the second time.
3. The woman has given birth once.
4. The woman has never been pregnant.

Antepartal Care

• Nutritional/metabolic health pattern
  - Pica
    • This is the craving and eating of substances that are not normally considered edible
    • Substances such as clay or laundry starch are commonly ingested
    • They are not toxic but may interfere with iron absorption, resulting in anemia
    • Large amounts of clay may cause constipation

Antepartal Care (Cont.)

• Common discomforts
  - Excessive salivation
  - Nausea
  - Hyperemesis gravidarum
  - Pyrosis (heartburn)
Antepartal Care (Cont.)

- Skin changes
  - Linea nigra: dark line midline of abdomen
  - Chloasma: the mask of pregnancy
  - Striae gravidarum: stretch marks
  - Spider nevi: dilated capillaries on the skin
  - Palmar erythema: reddened palms
  - Hirsutism: excessive body hair

Antepartal Care (Cont.)

- Hygiene practices
  - Bathing and showering during pregnancy should continue as part of routine hygiene
  - Increased perspiration is common, and good personal hygiene is important to prevent body odor
  - Some primary care practitioners restrict tub baths in the last month, because the cervix may have dilated
  - Most primary care practitioners recommend that women avoid using hot tubs, sauna baths, and spas during pregnancy

Antepartal Care (Cont.)

- Elimination
  - Gastrointestinal system
    - Slowing of intestinal peristalsis can result in abdominal distention, flatulence, and constipation
    - Hemorrhoids can result from straining and because the enlarged uterus puts pressure on the pelvic blood vessels
    - Women with cholelithiasis may have problems as a result of increased cholesterol levels
    - Adequate fluid intake, dietary roughage, and exercise may help reduce problems with constipation
Antepartal Care (Cont.)

- Elimination
  - Urinary system
    - Frequency of urination is a common complaint
    - The mother must excrete not only her own waste products but also those of the fetus
    - Early in pregnancy, the enlarging uterus irritates the bladder by putting pressure on it; this continues until the uterus rises into the abdominal cavity
    - Later in pregnancy, when the presenting part descends into the pelvis, the pressure and symptoms return

Antepartal Care (Cont.)

- Activity/exercise
  - Normal activity should continue throughout an uncomplicated pregnancy
  - Fatigue is a common complaint during pregnancy
  - Changes in balance and posture occur as the fetus increases in size; to compensate for the shifting center of gravity, the lumbodorsal curve increases (lordosis)
  - Hormonal influence on the pelvic bones, resulting in joint relaxation, can lead to a waddling gait
  - Leg cramps are a common occurrence

Antepartal Care (Cont.)

- Rest/sleep
  - Early in pregnancy, few changes in sleep patterns are experienced
  - As the size of the abdomen increases, it may become increasingly difficult for the woman to find a position of comfort
  - The supine position is not recommended as a woman approaches her due date; this may cause excessive pressure on the aorta and vena cava and may result in decreased circulation for the fetus
  - Rest periods during the day with the feet elevated should be encouraged
Antepartal Care (Cont.)

- Sexuality/reproductive system
  - Breast changes
    - Breast changes begin early in pregnancy; there may be tingling and a feeling of fullness
    - Generally, the breasts increase in size in preparation for lactation
    - The nipples and areola darken
    - Colostrum may be secreted by the nipples in late pregnancy
  - Sexual activity
    - Unless there are complications in the pregnancy or the bag of water has ruptured, there is no physiologic reason to limit sexual activity during pregnancy
    - Many women experience a decrease in desire as a result of hormonal changes and the multiple discomforts that may be occurring
    - Discussion of various coital positions and sexual activity that does not include intercourse is appropriate

Antepartal Care (Cont.)

- Vaginal bleeding
  - Vaginal bleeding at any time during pregnancy should be reported to the provider at once
  - Sexual activity should cease until the cause of the bleeding is determined and should be resumed only when the provider determines that no danger exists
Antepartal Care (Cont.)

• Coping/stress tolerance
  ➢ All of the physical and hormonal changes of pregnancy place additional stress on the woman
  ➢ Mood swings and ambivalence are common as the woman works through her fears and comes to grips with the reality of pregnancy and how the pregnancy will affect her life
  ➢ Listening and allowing the woman adequate time to verbalize her fears can also help reduce anxieties

Antepartal Care (Cont.)

• Role/relationship
  ➢ Pregnancy introduces a totally new role, that of mother
  ➢ Culture will have much to do with how the woman will define her role
  ➢ Dynamics also change between the woman and the baby’s father, particularly with the first pregnancy
    • The woman is no longer just a wife or girlfriend; she is also a mother

Antepartal Care (Cont.)

• Self-perception/self-concept
  ➢ Rapid changes in body shape and size can lead to changes in self-image
  ➢ Many women feel that they are not attractive when they are pregnant
  ➢ They may also feel a loss of control related to the changes taking place
Antepartal Care (Cont.)

- Cognitive/perceptual
  - Although sensory changes are uncommon with pregnancy, blurring or diplopia may indicate problems with pregnancy-induced hypertension
  - Prenatal education is important

Preparation for Childbirth

- Childbirth preparation classes
  - Some classes are general in nature, whereas others are targeted toward specific groups such as adolescents, those having cesarean or vaginal birth after cesarean delivery, siblings, or grandparents
  - Common methods of prepared childbirth include
    - Dick-Read
    - Bradley
    - Leboyer
    - Lamaze

Preparation for Childbirth (Cont.)

- Cultural variations in prenatal care
  - It is imperative that the practitioner determine and explore cultural practices and beliefs with the patient
Nursing Process

- Nursing diagnoses
  - Body image, disturbed
  - Nutrition: less than body requirements
  - Injury, risk for
  - Activity intolerance
  - Incontinence, stress urinary
  - Constipation
  - Sleep pattern, disturbed
  - Fatigue

Nursing Process (Cont.)

- Nursing diagnoses
  - Knowledge, deficient
  - Family processes, interrupted
  - Fear
  - Parenting, risk for impaired

Question 4

Which respiratory change is typical with pregnancy?

1. Tidal volume is decreased.
2. Oxygen consumption is increased.
3. Respiratory rate is decreased.
4. Lung capacity is increased.