Standard of prenatal care

Reihaneh Pirjani MD

Perinatologist

Assistant professor

Tehran University of medical sciences

The major goal of prenatal care

- Early, accurate estimation of gestational age
- Identification of the patient at risk for complications
- Ongoing evaluation of the health status of both mother and fetus
- Anticipation of problems and intervention,, to prevent or minimize morbidity
- Patient education and communication

HISTORY AND PHYSICAL EXAMINATION

- One goal of prenatal care is identification of women at increased risk of medical complications, pregnancy complications, or fetal abnormalities.

- Early identification of these women:

✓ an opportunity to discuss these issues with the patient

✓ offer interventions to minimize the risk

- Ideally, this process is initiated prior to pregnancy during a preconception consultation

- The elements of the patient history include:

- Personal and demographic information
- Past obstetrical history
- Personal and family medical history
- Past surgical history
- Genetic history
- Menstrual and gynecological history
- Current pregnancy history
- Psychosocial information

Initial prenatal social and demographic assessment

Name of patient and emergency contact
Marital status
Age (Date of birth)
Home address
Telephone numbers for day, night, emergency
Education
Occupation
Partner's name and occupation
Pediatrician
Primary care physician
Hospital for delivery
Religion (Jehovah's witness?)
Insurance carrier

Past obstetrical history

Number of pregnancies:
Fullterm
Preterm
Miscarriage
Abortion
Ectopic
Living children
Multiple gestation
For each pregnancy, indicate:
Date of delivery
Infant gestational age at delivery
Location of delivery
Sex of child
Birth weight
Mode of delivery
Type of anesthesia
Length of labor
Outcome (miscarriage, stillbirth, ectopic, etc)
Details (eg, type of cesarean section scar, forceps, etc)
Complications (maternal, fetal, child)

Basic medical history for the pregnant woman and her family

- Endocrine disorder
  - Thyroid
  - Adrenal
  - Diabetes
- Cardiovascular disease
  - Hypertension
  - Arrhythmia
  - Atherosclerotic disease
  - Congenital anomalies
  - Rheumatic fever
  - Thromboembolic disease
- Kidney disease
  - Pyelonephritis
  - Urinary tract infections
  - Anomalies
- Neurologic or muscular disorders
  - Seizure disorder
  - Myotonia
  - Aneurysm
  - Arteriovenous malformation
  - Headaches
- Gastrointestinal disease
  - Hepatitis
  - Gall bladder disease
  - Inflammatory bowel disease
- Psychiatric problems
  - Eating disorder
  - Depression
  - Psychosis
- Domestic violence/sexual abuse
- Cancer
- Autoimmune disorder
  - Systemic lupus erythematosus
  - Rheumatoid arthritis
- History of blood transfusion
- History of trauma
- Pulmonary disease
  - Asthma
  - Tuberculosis
- Hematologic problems
  - Bleeding diathesis or thrombophilia
  - Anemia
- Breast disorders
- Infectious diseases
  - Herpes
  - Gonorrhea
  - Chlamydia
  - Syphilis
  - HIV
  - Human papillomavirus
- Gynecologic history
  - Diethylstilbestrol exposure
  - Abnormal PAP smear
  - Genital tract disease or procedures
- Surgical procedures
- Problems with anesthesia
- Hospitalizations
- Allergies
- Medications
- Substance use
  - Alcohol
  - Cigarettes
  - Recreational drug use

FREQUENCY OF PRENATAL VISITS

- The typical intervals for prenatal visits for nulliparous women with uncomplicated pregnancies are every 4 weeks until 28 weeks of gestation, every 2 weeks from 28 to 36 weeks, and then weekly until delivery

- Women with problems are seen more frequently, depending on the nature of the problems.

Physical examination

- Baseline blood pressure, weight, and height
- A complete physical examination should be performed, with special attention to uterine size and shape and evaluation of the adnexa
- Sonography is also useful for evaluating suspected adnexal masses and uterine fibroids.

LABORATORY TESTS(Routine)

- **Rhesus type and antibody screen**
- This test will detect antibodies potentially causing hemolytic disease of the newborn.
- **Rh(D)**

LABORATORY TESTS(Routine)

- **Hematocrit or hemoglobin and PLT and mean corpuscular volume** (MCV)

- An MCV <80 femtoliters (fL) in the absence of iron deficiency suggests thalassemia.

LABORATORY TESTS(Routine)

- **Cervical cytology cancer screening**

- women who are age 21 years or older according to standard guidelines.

- Pregnancy is not an indication for a change in the frequency of cervical cancer screening.

LABORATORY TESTS(Routine)

- **Rubella immunity**
- Every woman at the first prenatal visit

- unless who have previous serologic testing
-
- If nonimmune, avoid exposure and receive postpartum immunization

LABORATORY TESTS(Routine)

- **Varicella immunity** — Immunity to varicella should be determined

✓ a healthcare provider's diagnosis of varicella

✓ history of varicella disease,

✓ documented vaccination,

✓ laboratory evidence of immunity

LABORATORY TESTS(Routine)

- **Urine protein**
- Urine screening for proteinuria, such as with a dipstick, is useful as a baseline for comparison if assessment of renal function is performed later in pregnancy

LABORATORY TESTS(Routine)

- **Urine culture**
- Routine urine culture is recommended
- because pregnant women with untreated asymptomatic bacteriuria are at high risk of developing pyelonephritis
- rapid tests for bacteriuria do not have adequate sensitivity and specificity

LABORATORY TESTS(Routine)

- For women with asymptomatic bacteriuria:

✓ retesting monthly until delivery

✓ giving suppressive therapy for the remainder of pregnancy if they have recurrent or persistent bacteriuria

LABORATORY TESTS(Routine)

- **Sexually transmitted infection** — The following tests are performed routinely at the first prenatal visit, and then repeated in the third trimester for women who are at high risk:
- **Human immunodeficiency virus** ACOG supports universal human immunodeficiency virus
- **Syphilis testing**
- **Hepatitis B antigen testing**

LABORATORY TESTS(Routine)

- **Hepatitis C antibodies**

- Pregnant women at high risk for hepatitis C infection should be screened for hepatitis C antibodies

LABORATORY TESTS(Routine)

- **Toxoplasmosis**

- Whether all pregnant women should undergo serological screening for toxoplasmosis is controversial.

LABORATORY TESTS(Routine)

- **Bacterial vaginosis** — Screening for bacterial vaginosis is not recommended as a routine component of prenatal care
- **Trichomonas vaginalis** — Screening for *Trichomonas* is not recommended as a routine component of prenatal care for HIV-negative women.

LABORATORY TESTS(Routine)

- **Herpes simplex virus**

- Routine screening for herpes simplex virus (HSV) infection in asymptomatic women is generally not recommended

LABORATORY TESTS(Routine)

- **Chlamydia testing**

- The American College of Obstetricians and Gynecologists (ACOG) recommends chlamydia screening for all pregnant women at the first prenatal visit
- others recommends screening all pregnant women <25 years and older women at increased risk for infection

LABORATORY TESTS(Routine)

- **Chlamydia testing**

- Nucleic acid amplification tests (NAAT).

- a specimen obtained from a swab of the endocervix or vagina, although urine testing appears to be as sensitive
- on liquid-based cytology specimens.
- Positive test results should be treated. In pregnancy, women with a positive test then undergo a test-of-cure three to four weeks after treatment and are retested three to four months later

LABORATORY TESTS(Routine)

- **N. gonorrhea** — screening women <25 years of age and all women at increased risk of infection, including

✓ women with previous gonorrhea infection,

✓ other sexually transmitted disease,

✓ new or multiple sex partners

LABORATORY TESTS(Routine)

- **Ultrasound examination** —
- routine early ultrasound examination is beneficial in an unselected population
- First trimester ultrasound examination can lead to earlier detection of clinically unsuspected fetal malformations (including aneuploidies)
- earlier detection of multiple pregnancy.

Thyroid function

- Neurologic development may be adversely affected in children born to mothers with hypothyroidism,
- maternal hyperthyroidism can lead to fetal and maternal complications

Thyroid function

- some experts recommend universal screening for thyroid dysfunction in pregnant women or those attempting to become pregnant

Thyroid function

- ACOG and the American Thyroid Association [ATA] recommend testing pregnant women for thyroid dysfunction if they have any of the following:
- Symptoms of thyroid disease
- Personal or family history of thyroid disease
- Characteristics that place them at high risk for overt hypothyroidism (eg, type 1 diabetes, history of head/neck radiation, goiter, iodine deficiency)

LABORATORY TESTS(Routine)

- **Screening for fetal aneuploidy**

second and third trimesters

- Routine assessments at each prenatal visit typically consist of:
- Measurement of maternal blood pressure and weight
- ●Urine dipstick for protein, although the value of this test is questionable in women with normal blood pressure
- ●Measurement of the uterine size or fundal height to assess fetal growth
- ●Documentation of fetal cardiac activity
- ●Assessment of maternal perception of fetal activity (in the second and third trimesters)
- ●Assessment of fetal presentation (in the third trimester)

- Ongoing assessment of gestational weight gain, as well as ongoing discussion of diet and exercise, may help prevent excessive weight gain during pregnancy and overweight or obesity postpartum.

15 to 24 weeks of gestation

- **Neural tube defects** — For women who choose to undergo screening for neural tube defects, maternal serum alpha-fetoprotein and ultrasound are both effective methods.

- **Trisomy 21**

- **Fetal anomalies** — is optimally performed in the second trimester, between 18 and 22 weeks of gestation.

- Although many congenital anomalies can be identified in the first trimester, sensitivity is higher in the second trimester.

- Additional testing may be needed to confirm the suspected diagnosis.

- **Cervical length** —
- There is insufficient evidence to mandate a policy of routine cervical length screening between 16 and 24 weeks for all pregnancies.

- Cervical length can be measured when the patient undergoes ultrasound examination for fetal anomalies.

- treatment of women with a short cervix with vaginal progesterone have reduced the rate of subsequent preterm birth.

24 to 28 weeks of gestation

- Gestational diabetes

- RBC antibodies — In Rh(D)-negative women
- In Rh(D)-positive women who had a negative RBC antibody screen early in pregnancy, rescreening for RBC antibodies in the third trimester is not cost-effective.
- Hemoglobin or hematocrit — The hemoglobin or hematocrit should be checked early in the third trimester to assess for anemia

28 to 36 weeks of gestation

- Sexually transmitted disease

- Group B beta-hemolytic streptococcus testing —
- all pregnant women are screened at 35 to 37 weeks of gestation
- The only patients who are excluded from screening are:

✓ those with GBS bacteriuria

✓ those who gave birth to a previous infant with invasive GBS disease.

- Intrapartum chemoprophylaxis of colonized women has been proven to reduce the incidence of early-onset neonatal GBS.