Maternal - Fetal Assessment

Death in Neonatal Period
- Congenital anomalies, disorders r/t short gestation, LBW, RDS, effects of maternal complications.
- African-American women-2X as likely to experience prematurity, LBW, and infant and fetal death.
- Improvement in perinatal services, including NICU, high quality prenatal care - improved survival rates.

National Health Goals
- Increase to at least 90% the proportion of all pregnant women who receive prenatal care in the first trimester of pregnancy from a baseline of 76%.
Risk Factors

- **Biophysical** - originate within mother or fetus and affect development, functioning.
- **Psychosocial** - maternal behaviors & adverse life-styles (emotional distress, inadequate social support, unsafe cultural practices.
- **Sociodemographic** - arise from Mom & her family and place the unit at risk.
- **Environmental** - hazards of the workplace and general environment.

Prenatal care focus

- Establish a baseline of present health
- Determine gestational age
- Monitor fetal development
- Identify the woman at risk
- Minimize the risk of possible complications – anticipation, prevention
- Time for education – pregnancy & dangers

Health Assessment – 1st visit

- Extensive health history including gynecologic & obstetric, medical, family, nutritional & social (drug/alcohol use).
- Systems review & system assessment
- Support system
- Physical exam - extensive
- Laboratory studies
- Birth plan
Gravidity and Parity
- G -

- P-

- Multigravida
  - # PGs past 20th week at delivery.
- Nulligravida
- Multipara
- Primigravida
- Primipara
- Term

Multifetal PG is considered one parous episode.

G-T-P-A-L

- G - total # PGs, including present one
- T - total # full-term births
- P - # preterm births
- A - # spontaneous or elective Abs
- L - # children currently living

Early Prenatal Assessment

- Health seeking behaviors r/t guidelines for nutrition and activity during pregnancy.
Health-seeking behaviors

**Interventions:**
- Discuss options for prenatal care, labor & delivery
- Delivery options
- Teach breathing & relaxation techniques, comfort measures
- Partner coaching
- Promote self-esteem in new parental role

**Evaluation:**
- Couple state they feel prepared for CB
- Client states she feels confident using breathing exercises for contractions
- Client indicates she has a support person for labor

High Quality Prenatal Care
Biophysical Assessment

- Pelvic Examination –
  - Types:
  - Positioning
  - Inspection – external & internal
  - Pap Smear
  - Vaginal Inspection
  - Estimating Pelvic Size

Laboratory Studies

- CBC –
  - Serologic test -
  - Blood typing -
  - AFP -
  - Coombs’ test -
  - Antibody titer –
  - UA –
  - TB screening -

Maternal Assays

- Coombs test - Determines whether Rh antibodies are present in maternal serum.
Kick Count

- Daily fetal movement count - ‘fetal alarm’ if no FM for 12 hrs

Ultronography

- Uses intermittent sound waves of high frequency. Sound frequencies that bounce back, displayed as a visual image-present distinct appearances.
- Used at least once during PG
- Intravaginal ultrasound - useful in obese pts, no need for a full bladder. Used to identify ectopic PG in first trimester, monitor embryo, ID abnormalities/defects (anencephaly, spinal cord, heart defects, etc.)

Ultrasound

- Ultrasonography (transabdominal)- used differently in 2nd & 3rd trimester to detect fetal viability, determine presentation of the fetus & gestational age, determine amniotic fluid volume,
- Locate placenta & maturation, placenta previa
- Establishes fetal age from head measurements (term PG).
Ultrasound cont’d

- discover complications ex: IUD, abdominal PG, separation of placenta, multiple gestation
- reveal fetal death
- detect retained placental fragments
- results - immediate
- disadvantage- cost, if no insurance; no prenatal care esp. 1st trimester

MRI

- fetal structure, placenta, fluid quantity, maternal structures, ectopic pregnancy, soft tissue malformation.

Biochemical Assessment
Amniocentesis
- Performed on out-pt basis, between 15-18 weeks; obtain fetal cells by needle, guided by ultrasound.
- Examine fetal cells in amniotic fluid to ID chromosomal abnormalities; check fetus when Rh sensitization, congenital anomalies; Dx: amnionitis; test AFP levels.
- Client empties bladder before procedure.

AFP screening
- 15-18 weeks
- Predominant protein in fetal plasma, measured in maternal serum & amniotic fluid
- Amounts increase with gestational age
- Higher amounts in multifetal gestation. Why?

AFP screening
- Abnormal amounts associated with serious fetal anomalies.
- Low amounts: chromosomal anomalies → Down syndrome
- High amounts: neural tube defect, spina bifida, anencephaly.
Triple marker

- Triple marker - AFP, hCG, unconjugated estriol
- Screen for chromosomal abnormalities - increase detection - trisomy 18 & 21, Downs syndrome
- 15-22 weeks
- hCG - human chorionic gonadotrophin - hormone used in most PG tests.
- Unconjugated estriol -
- Results are positive if all 3 markers are low.
- Add'l testing - amniocentesis for karyotyping

Chorionic villus sampling

- Technique uses ultrasonography
- Full bladder is required
- Transcervical - catheter aspirates a sampling
- Transabdominal - needle inserted through the abdominal and uterine walls and chorionic tissue is aspirated.
- Performed as early as 10 weeks
- Risks - pregnancy loss, limb reduction defects, Rh sensitization is increased.

Percutaneous umbilical cord sampling (Cordocentesis)

- Fetal umbilical blood sample for prenatal diagnosis of health problems, intrauterine management of Rh disease, genetic studies, acid base status of fetus.
- Umbilical vein contains oxygenated blood and has lower CO₂ content (higher pH).
- Risks: infection, fetal bradycardia, cord hematoma, premature labor, PROM.
Electronic Fetal Monitoring

- at risk for uteroplacental insufficiency (loss of placental function leads to IUGR, respiratory function is compromised --> fetal hypoxia.
- NST- fetal activity determination - FHR pattern in response to fetal movement.
- CST- ID fetus in jeopardy, when introduced to stress using oxytocin/nipple stimulation.

Nursing Diagnoses

- Anxiety r/t pregnancy course and exposure to teratogens AEB need for antepartal diagnostic testing.
- Decisional conflict r/t desire to be pregnant.
- Risk for ineffective coping r/t confirmation of unplanned pregnancy.

Nursing Care

- Provide clear, simple explanations of purpose and frequency of tests.
- length of test, describe procedure.
- teaching about follow-up care
- events that require health team notification.
Nursing Care cont’d

- never offer “advise”
- paraphrase concerns
- provide contact persons for support and guidance

Evaluation

- How do you know if your interventions were effective?
- Does pt. verbalize knowledge of what was taught or told?
- Does pt. seek information about the fetal condition?

Childbirth Preparation

- Readiness for Child Birth (CB)
- CB classes
- Parenting classes
- Alternative settings

Nursing Dx:
Health-seeking behaviors r/t lack of information about CB and newborn care.
Nonpharmacological Management of Discomfort

- Dick-Read Method
- Lamaze Method
- Bradley Method

Breathing Techniques

- **Cleansing Breath**: in through nose out through mouth at beginning and end of each cx
- **Slow abdominal breathing**: half of woman’s normal rate
- **Chest breathing**: more shallow, twice normal rate
- **Transitional breathing**: 4:1 ratio
- **Hyperventilation** =>

Factors Affecting Pain

- **Perception of pain**:
  - **Gate control theory**:
A 26 yr old PG woman, G2 P1 is 28 weeks, when she experiences painless vaginal bleeding. Upon her arrival at the hospital, what would be an expected diagnostic procedure?

- A. Amniocentesis for fetal lung maturity
- B. Ultrasound for placental location
- C. Contraction stress test (CST)
- D. Internal fetal monitoring