

Antenatal care

Definition

It is a program of follow up of pregnant women

Aims:

1. Management of **preexisting diseases** (e.g. Pregestational diabetes mellitus (D.M), chronic hypertension, chronic renal disease,..)
2. Screening and management for maternal and fetal **disease that may arise during pregnancy** (e.g. gestational D.M., PROM, preeclampsia, IUGR,..).
3. **Health Education (patients' information)** for:
 - a. Lifestyle advice: adequate diet, proper hygiene
 - b. Common symptoms of pregnancy
 - c. Warning symptoms
 - d. Mode of delivery (vaginal versus caesarean section)
 - e. Breastfeeding
4. Diagnosis & management of **problems that may affect labour** (e.g. disproportion, malpresentations, placenta previa, etc)

Pregnancy is a physiological state. In low risk pregnancy, the antenatal care is centered to ensure that the woman has not developed a risk factor or disease

Number of visits

- Low risk pregnancy: Every one month until 28 weeks then every two weeks until 36 weeks, and weekly until 40 weeks. Primigravida requires 10 visits and Multipara 7 visits.
- High risk pregnancy: tailored follow up. The follow up is done more frequently than the low risk pregnancy. The number of visits and the contents is not fixed. it depends on the disease status.

Contents of antenatal care programs

A. Initial assessment at first presentation (booking visit)

Antenatal care should start once the woman knows that she is pregnant. This usually depends on missed period and positive urinary pregnancy test.

I. History taking:

A. Assess the **last menstrual period** for reliability (well-remembered, cycles in previous 3 cycles were regular, and no lactation)

B. Ask about risk factors in pregnancy (**high risk pregnancy**)

1. Extremes of age: < 15 & > 40y
2. Parity: grand-multipara (>5)
3. Extremes of body weight: thin (BMI <18) or Obese (BMI > 30)
4. Previous infertility or recurrent miscarriage
5. Pre-pregnancy medical or surgical risks: diabetes mellitus (DM), hypertension, heart disease, anemia, etc
6. Previous complications during pregnancy as miscarriage, PROM, preterm birth, antepartum haemorrhage, Intrauterine fetal death (IUFD), gestational DM, preeclampsia, deep venous thrombosis (DVT), etc
7. Previous caesarean section or instrumental delivery
8. Previous perinatal morbidity or mortality
9. Previous maternal complications during previous deliveries: postpartum haemorrhage (PPH), puerperal sepsis, DVT, etc
10. Social factors: poor patient, rural residents, illiteracy, smoking, etc

C. Ask about **warning symptoms**

| Symptoms | Possible underlying cause |
|------------------------------|------------------------------------|
| 1 Vaginal bleeding | Miscarriage, Ectopic, , mole, etc |
| 2 Lower abdominal pain* | Ectopic pregnancy, Miscarriage |
| 3 Fainting attacks (syncope) | Ectopic pregnancy; cardiac disease |
| 4 Excessive vomiting | hyperemesis gravidarum |

**N.B. during normal pregnancy there is Braxton-Hicks contraction of the uterus that is similar in nature and intensity to the pain with menses*

II. Examination:

- General examination: especially examine for the pallor, jaundice. Measure the vital signs. Examine the eyes for exophthalmos. Examine the thyroid, cardiac auscultation, inspection and palpation of the abdomen.
- Local examination: PV is indicated only if there is vaginal bleeding

III. Laboratory investigations:

Complete blood count (screening for anemia), urine for albuminuria (baseline screening) & culture (screening for asymptomatic bacteriuria), Rh type & indirect coomb's test if Rh negative, and HBsAg (screening for hepatitis B virus)

IV. Lifestyle advice:

A. Diet & Supplementations

- Eat adequate diet with plenty of vegetables and fruits
- Daily supplementation of the following:
 1. Folic acid 400 µg in the first 12 weeks
 2. Iron from the 12th week until end of pregnancy
 3. Vitamin D 400 IU throughout pregnancy
- Avoid diet rich in mercury: see fish as shark & swordfish
- Avoid diet rich in vitamin A as liver: risk of teratogenicity
- Reduce risk of infection by *Listeria monocytogenes* (unwashed vegetables, unpasteurized milk, undercooked egg or meat)

B. Activities during pregnancy

- Moderate exercise like swimming and aerobics are safe. Avoid violent exercise, fall, joint stress, abdominal trauma.

C. Drugs

- Advice the woman to restrict medications to indications as decided by the doctor according to risk benefit principle

D. Smoking

- Advice the woman against smoking

B. Further follow up visits

I. History taking: Ask for warning symptoms

| Symptoms | Possible underlying cause |
|----------------------------------------------------------------------|---------------------------------------|
| 1 Excessive vomiting | hyperemesis gravidarum |
| 2 Vaginal bleeding | Antepartum haemorrhage (APH) |
| 3 Fluid leakage | Prelabour rupture of membranes (PROM) |
| 4 Lower abdominal pain and heaviness | Labour |
| 5 Severe headache, epigastric pain, vomiting, and blurring of vision | Eminent eclampsia |
| 6 Progressive oedema: swelling of lower limb, hand, and face | Severe preeclampsia |
| 7 Yellowish discolouration | Jaundice |

II. Examination:

- Examine for vital signs (especially blood pressure), fundal level, auscultate for fetal heart sound, and examine for lower limb oedema.

III. PV examination is not done routinely during follow up visits. It is indicated to diagnose labour

IV. Laboratory investigations:

- Haemoglobin level: at 28 weeks
- Urine for albumin: each visit
- Fasting & after 2 hours OGTT: for all Egyptian women at 24-28 weeks. Early (at 16-18 weeks) if there is previous gestational diabetes.

Value of Ultrasound in antenatal care of low risk pregnancy

Antenatal care is essentially a clinical program. Ultrasound assessment is required only twice for low risk pregnancy:

- **Dating scan at 10-14 weeks:** aiming to assess the viability, number of embryos, gestational age, and nuchal translucency (increased in fetuses with Down syndrome). Some congenital anomalies may be evident early as anencephaly.
- **Anomaly scan: at 18-22 weeks.** Its primary aim is to have detailed scanning of the fetal body to detect congenital anomalies. In addition, it assesses the fetal growth, placental site, amniotic fluid volume, and fetal gender.