**ANTENATAL CARE**

**It is a preventive obstetric health care program aimed at optimizing maternal-fetal outcome through regular monitoring of pregnancy**

**OBJECTIVES OF ANTENATAL CARE**

TO ENSURE:

Best possible health status for mother and fetus-

-Early detection and timely referral of high-risk pregnancy

Education of the mother about:-

♥ Physiology of pregnancy

♥ Nutrition

♥ Alarming symptoms and signs

♥ Infant care

♥ Breast feeding

♥ Child spacing

-Reduction of maternal and perinatal mortality rates

**Schedule of antenatal care visit**

Up to 28 weeks gestation → every 4 weeks

28-36 weeks → every 2 weeks

Thereafter → every week

In a low-risk pregnancy with no complications, minimum of five antenatal visits including the booking visits is acceptable.

First antenatal visit should be as early in pregnancy as possible

During the last visit inform the woman to return if she does not deliver within 2 weeks after the EDD

More frequent visits may be required according to the conditions (HT, anemia ,diabetes …)

**Routine antenatal care visits by WHO**

At least 4 visit

1st visit Before 4 months Before 16 weeks

2nd visit 6 months 24-28 weeks

3rd visit 8 months 30-32 weeks

4th visit 9 months 36-38 weeks

 **The initial Visit**

**The first antenatal visit should take place as early as possible during the first trimester.**

 **History**

Personal history

Complaints

Menstrual history

Obstetric history

present obstetric history

Family history

Medical history

Drugs or allergies

Other

Surgical history

Immunization history

Breast – feeding history

 **Examination**

**General (systemic)**

 Physical sign

 Chest and heart examination

 Breast examination

 Lower limb edema

**Abdominal (obstetric)**

 **Inspection**

 ►contour and size of abdomen

 ►scars of previous operations

 ►signs of pregnancy

 ►Fetal movements

 ►Dilated veins

 ►Hernia orifices

 ► Edema

**Palpation**

 ►fundal level (FL)

 ►Umbilical grip

 **Auscultation: fetal heart sounds (FHS)**

►From 10 weeks, use the fatal heart rate director

► From 20 weeks, us the Pinard fetal stethoscope

**Delivery date may be calculated by:**

* Nagle's Rule based on last menstrual period (LMP)
* McDonald's Rule or Fundal height
* Ultra-sonography to measure fetal growth
* Palpate the height of fundus

**Laboratory investigations**

stool analysis for ova and parasites

Complete blood count (CBC)

ABO grouping and Rh type

Screening for diabetes

Venereal test

Urine analysis and culture if possible

Arrange for pelvic ultrasound if the woman is not sure of gestational age or if her period is not reliable (refer to the section on the assignment of gestational age).

**Periodic Visits**

**At each visit the following procedures and examinations should be performed**

**History**

●Record new complaints

● Ask about alarming signs (danger sign)

●Ask about fetal movements

●Provide continuous health education

● Encourage institutional delivery

**Examination**

 **General**

● Weight

● Blood pressure (BP)

● Edema of lower limbs

 **Abdominal**

● fundal level ( fl)

● Fetal lie

● FHS

 **Laboratory investigation**

● HB

● Screening for diabetes at 28 weeks of pregnancy

● Urine exam for protein, glucose and ketones



**Assessment of fetal well-being in a low-risk pregnancy**

● Fetal size: Assessment of the FL or the symphseal-fundal height

●Fetal kick count: at least 10 movement/12 hours

●Fetal movements: absence precedes intra uterine death (IUFD) by 48 hours

●Fetal heart sounds ( bradycardia and/or tachycardia)

● At 37 weeks Assessment of fetal size, lie and presentation

● Assessment of pelvic capacity if there is suspicion of pelvic inadequacy (stature <145 cm, pelvic fractures, or previous CS for cephalopelvic disproportion [CPD]

**Counsel on nutrition**

▪ Advise the woman to eat good amount and variety of healthy foods, such as meat, fish, nuts, seeds, cereals, beans, vegetables, cheese, milk, to help her feel well and strong

▪ Spend more time on nutrition counseling with very thin women and adolescents.

▪ Determine if there are important taboos about foods witch are nutritionally important for good health.

 Advise the women against these taboos.

▪ talk to family members such at the partner and mother-in-law, to encourage them to help ensure the woman eats enough and avoids hard physical work.

**Adequate nutrition**

***Calories***

Excess calories lead to fat deposition and obesity

The caloric requirement is the same as in the non-pregnant state

***Protein*** 85 gm / day

Animal sources: meat, fish, Cheese milk, and eggs

Plant sources: peas , beans,

**Marked protein insufficiency in diet leads to**

1-Fetal prematurely and intrauterine growth restriction(IUGR)

2-Maternal anemia and edema

***Calcium*** 1.5 gm / day

Sources: milk, cheese , yogurt, calcium carbonate

**Insufficient calcium in the diet may lead to**

1-Rickets in infants

2-Osteomalacia in mothers

***Iron*** 30mg/day

Animal sources: liver and red meat

Plant source :dark green vegetables

Insufficient iron the diet leads to maternal iron deficiency

note: if iron and calcium are prescribed, they should be taken 6-12 hours apart.

***Fats***

If 2/3 of proteins are taken from animal sources the intake of fats will be adequate.

Carbohydrates

Carbohydrates can be slightly reduced to compensate for the increased calorie value of the proteins and more restricted if weight reduction is necessary .

***Folic acid*** 400 microgram / day

Megalobastic anemia form deficiency of folic may occur during pregnancy to prevent megaloblastic anemia

It is recommended that women at high risk for neural tube defects take a supplement of 4-5 mg. of folic acid/day at least 2 months before preg. And for the first 12 wk. of preg.

**Health education for pregnant woman**

Advise the women about:

▪ Take iron tablets

▪ Rest and avoid lifting heavy objects.

▪ Avoid smoking in pregnancy .

▪ NOT to take medication unless prescribed at the health center/hospital.

▪ Place of delivery

▪ Importance of post natal visit(1-2 weak after delivery)

▪ Importance of exclusive BF

▪ Importance of family planning

Tetanus toxoid vaccination schedule for pregnant women and women of childbearing age who have not received previous immunization against tetanus



**GIVE PREVENTIVE MEASURES**

Give tetanus toxoid according to the immunization status

Give iron / folate

 (in pregnancy ,post partum post-abortion )

Give vitamin A AFTER DELIVERY

 DO NOT give capsule with high dose of vit. A during pregnancy

**Advise on danger signs**

Advise to go the hospital/health center immediately, day or night, WITHOUT waiting if any of the following signs :

* vaginal bleeding.
* convulsions.
* escape of fluid from the vagina
* severe headaches with blurred vision.
* fever and too weak to get out of bed.
* severe abdominal pain.
* fast or difficult breathing.
* Decrease or cessation of fetal movement

She should go to the health center as soon as possible if any of the following signs :

▪ fever .

▪ abdominal pain.

▪ feels ill.

▪ swelling of fingers, face, legs.

▪ Decrease or cessation of fetal movement

**Advise to go to the facility or contact the skilled birth attendant if any of the following signs :**

▪ a bloody sticky discharge.

▪ painful contractions every 20 minutes or less.

▪ waters have broken.

**Advise on danger signs at home delivery**

If the mother or baby has any of these sign she /they must go to the hospital/health center immediately, day or night, WITHOUT waiting

**Mother**

Water break and not in labor after 6 hour

Labor pains/contractions continue for more than 12 hours

Heavy bleeding after delivery (pad soaked in less than 5 minute )

Bleeding increases

Placenta not expelled 1 hour after birth of the baby

 **Baby**

Very small

Difficult in breathing

Fits

Fever

Feels cold

Bleeding

Not able to drink

**PLACE OF DELIVERY**

All the fallowing condition should delivered in hospital:

* First birth
* More than 5 previous births
* Transverse lie or obvious mal presentation
* Previous CS
* Obvious multiple pregnancy
* Documented third degree tear
* History of or current vaginal bleeding or other complication during this pregnancy
* Last baby born dead or died in first day
* Prior delivery with convulsions
* Prior delivery by forceps or vacuum

 **Discuss how to prepare for an emergency in pregnancy**

▪ Discuss emergency issues with the woman and her partner/family:

→ where will she go?

→ how will they get there?

→ how much it will cost for services and transport?

→ can she start saving straight away?

→ who will go with her for support during labour and delivery?

→ who will care for her home and other children ?

**Obstetrics Overview**

**Obstetrics**

Field of medicine that deals with pregnancy (prenatal), delivery of the baby, and the first 6 weeks after delivery (postpartum period)

**Pregnancy**

9 calendar months or 10 lunar months

40 weeks or 280 days

**Divided into trimesters**

Three intervals of 3 months each

Known as gestational period

**Pregnancy**

Fertilization or Conception

Union of a sperm and a mature ovum

Takes place in outer third of the fallopian tube

**Zygote**

Initial name for fertilized ovum

**Embryo**

Name of product of conception from second through 8th week of pregnancy

* + **Fetus**

Name of product of conception from 9th week through duration of gestational period

**Two major accessory structures of pregnancy**

**Amniotic sac**

Strong, thin-walled membranous sac that envelops and protects the growing fetus

Also known as the fetal membrane

Outer layer of sac is called the chorion

Inner layer of sac is called the amnion

Amniotic fluid within sac cushions and protects fetus during pregnancy

**Placenta**

Temporary organ of pregnancy

Provides for fetal respiration, nutrition, excretion

Functions as an endocrine gland by producing hormones necessary for normal pregnancy

Human chorionic gonadotropin (HCG), estrogen, progesterone, and human placental lactogen (HPL)

**Maternal side of placenta**

Attached to wall of uterus

Has a “beefy” red appearance

**Fetal side of placenta**

Has shiny, slightly grayish appearance

Contains arteries and veins that intertwine to form umbilical cord

Umbilical cord arises from center of placenta and attaches to umbilicus of fetus