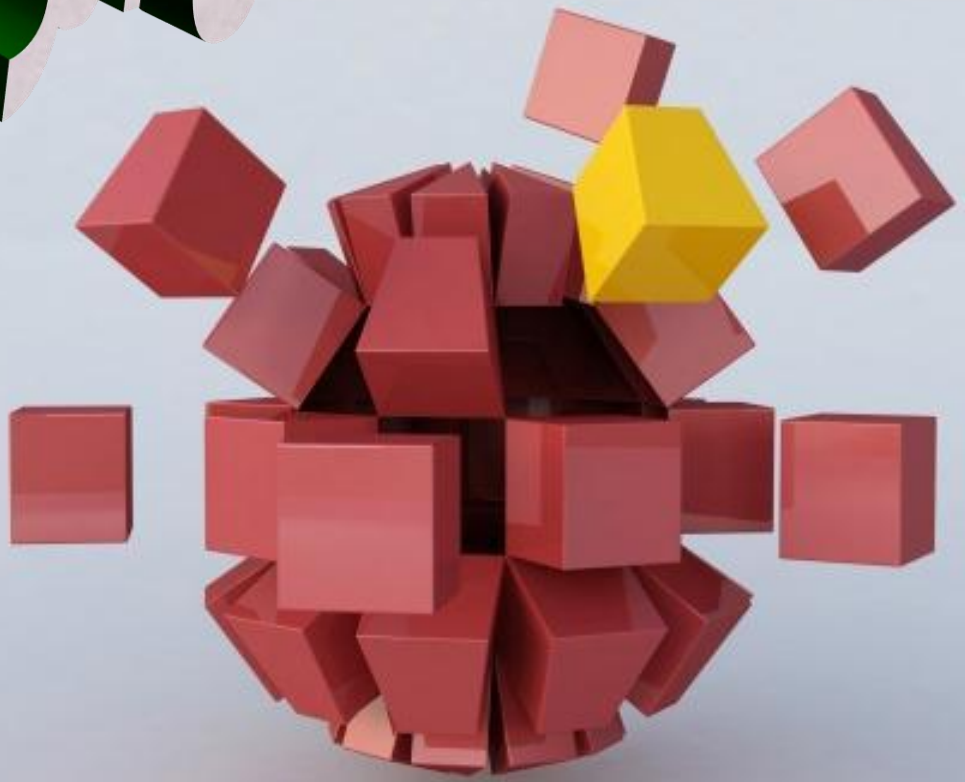
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PRE-CONCEPTION CARE AND COUNSELING

Lecture 3

Prepared by:-Dr.Sawsan Talib



Table 1

Four Goals for Preconception Health (CDC/SPPC)

Goal 1: Improve the knowledge, attitudes, and behaviors of men and women related to preconception health.

Goal 2: Assure that all women of childbearing age in the U.S. receive preconception care services (i.e., evidence-based risk screening, health promotion, and interventions) that will enable them to enter pregnancy in optimal health.

Goal 3: Reduce risks indicated by a previous adverse pregnancy outcome through interventions during the interconception period, which can prevent or minimize health problems for a mother and her future children.

Goal 4: Reduce disparities in adverse pregnancy outcomes.

CDC: Centers for Disease Control and Prevention;
SPPC: Select Panel on Preconception Care.
Source: Reference 4.



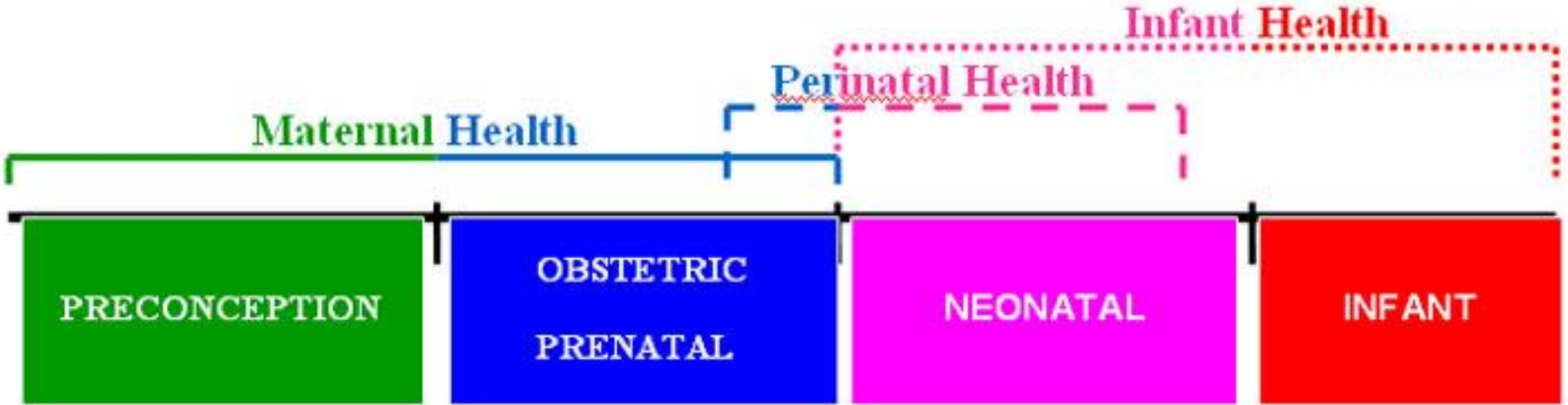
Preconception Care



Continuum of care designed to meet the needs of a woman throughout the various stages of her reproductive life

Goals:

1. Make sure that the woman is healthy as she attempts to become pregnant
2. Promote the health of the woman and her children throughout her reproductive life cycle



ADA Guidelines: Preconception Care

- Maintain A1C levels as close to <7.0% as possible before attempting conception
- Provide preconception counseling starting at puberty for all women of childbearing potential
- Evaluate and treat (if necessary) in women contemplating pregnancy
  - Diabetic retinopathy
  - Diabetic nephropathy
  - Diabetic neuropathy
  - CVD
- Evaluate, consider risk/benefit profile of medications being used for treatment of diabetes and associated conditions prior to conception
  - Statins, ACEIs, ARBs, most noninsulin therapies contraindicated/not recommended in pregnancy

ACEI=angiotensin-converting enzyme inhibitor; ARB=angiotensin receptor blocker; CVD=cardiovascular disease

Key Components of Preconception Care

1. Reproductive life plan
2. Past reproductive history
3. Medical assessment
4. Medication use
5. Infections & immunizations
6. Genetic risks
7. Healthy weight & nutrition
8. Psychological & behavioral risks
9. Healthy environment
10. Physical assessment

REPRODUCTIVE HISTORY

- Conditions with recurrence risk:
  - Premature delivery
  - Preeclampsia/eclampsia
  - Placenta previa/abruption
  - Gestational diabetes
  - Preterm premature rupture of membranes
  - Certain birth defects/genetic disorders



REPRODUCTIVE HISTORY

- Prior uterine surgery or anomalies
  - Good time to discuss trial of labor
- Prior pregnancy losses
- Habitual abortion
- Must also deal with associated emotional issues



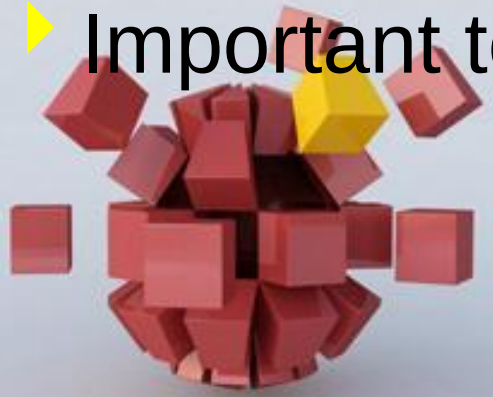
ETHNIC RISKS

- Offer genetic counseling to at-risk couples
- Testing includes carrier screening and available antenatal diagnostic modalities
- Review possible options/may consider neonatal consultation



ANEUPLOIDY RISK

- Risk of any type of aneuploidy increases with maternal age
- Offer genetics consultation
- Important to obtain family pedigree



RISK ASSESSMENT - MEDICAL HISTORY

- Possible effects of pregnancy on disease
- Possible effects of disease on pregnancy, mother and fetus
- Evaluate for any possible interventions
- Assess for possibility of teratogenic effects of medications



NUTRITIONAL ASSESSMENT

- Assess optimal nutritional needs
- Risk factors
  - Low income
  - Substance abuse
  - Depression/mental illness
  - Gastrointestinal disease
  - Chronic disorders



NUTRITIONAL ASSESSMENT

- Must also assess for existence of eating disorders

- Folic acid supplementation beginning one month prior to conception can greatly reduce incidence of neural tube defects



Dental Health

- Research suggests that the bacteria that cause inflammation in the gums can actually get into the bloodstream and target the fetus, potentially leading to premature labor and low birth weight babies.

- Women who have gum disease are more than twice as likely as other women to give birth to a premature baby.
- Encourage routine dental health care.





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www.cdc.gov/showyourlove

Show Your Love Preconception Health

Diagnosis of Pregnancy



Definitions

a. **Gravida**. A pregnant woman. This refers to any pregnancy regardless of duration.

b. **Para**. A woman who has delivered a viable young (not necessarily living at birth). Para is used with numerals to designate the number of pregnancies that have resulted in the birth of a viable offspring.

c. **Nulligravida**. A woman who has never been pregnant.

d. **Nullipara**. A woman who has not delivered a child who reached viability.

e. **Primigravida**. A woman pregnant for the first time.

f. **Primipara**. A woman who has delivered one child after the age of viability.



g. **Multigravida**. A woman who has been pregnant more than once.

h. **Multipara**. A woman who has delivered two or more fetuses past the age of viability. It does not matter whether they are born dead or alive.

i. **Grandmultipara**. A woman who has had six or more births past the age of viability.

j. **Viability**. Refers to the capability of a fetus to survive outside the uterus after the earliest gestational age (approximately 22 to 23 weeks gestation).

k. **In utero**. Refers to within the uterus.



PRESUMPTIVE SIGNS AND SYMPTOMS OF PREGNANCY

- Presumptive signs and symptoms of pregnancy are those signs and symptoms that are usually noted by the patient.

- These signs and symptoms are not proof of pregnancy but will suspicious of pregnancy.



Amenorrhea

- Amenorrhea is one of the earliest clues of pregnancy.
- The majority of patients have no periodic bleeding after the onset of pregnancy.

- At least 20 percent of women have some slight, painless spotting during early gestation for no apparent reason and a large majority of these continue to term and have normal infants.



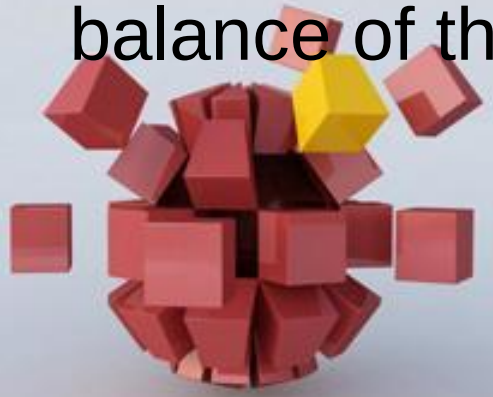
Other causes of amenorrhea

- Menopause.
- Stress (severe emotional shock, tension, fear, or a strong desire for a pregnancy).
- Chronic illness (tuberculosis, endocrine disorders, or central nervous system abnormality).
- Anemia.
- Excessive exercise.



Nausea and Vomiting (Morning Sickness

- Usually occurs in early morning during the first weeks of pregnancy.
- Usually spontaneous and subsides in 6 to 8 weeks or by the twelfth to sixteenth week of pregnancy.
- **Hyperemesis gravidarum**. This is referred to as nausea and vomiting that is severe and lasts beyond the fourth month of pregnancy. It causes weight loss and upsets fluid and electrolyte balance of the patient.



Nausea and Vomiting

- Nausea and vomiting are unreliable signs of pregnancy since they may result from other conditions such as:
- Gastrointestinal disorders (hiatal hernias, ulcers, and appendicitis).
- Infection (influenza and encephalitis).
- Emotional stress, upset (anxiety and anorexia nervosa).
- Indigestion.



Frequency Urination

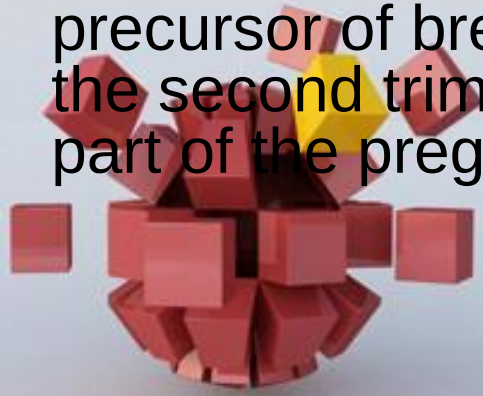
- Frequent urination is caused by pressure of the expanding uterus on the bladder.
- It subsides as pregnancy progresses and the uterus rises out of the pelvic cavity.
- The uterus returns during the last weeks of pregnancy as the head of the fetus presses against the bladder.
- Frequent urination is not a definite sign since other factors can be apparent (such as tension, diabetes, urinary tract infection, or tumors).



Breast Changes

- In early pregnancy, changes start with a slight, temporary enlargement of the breasts, causing a sensation of weight, fullness, and mild tingling.

- Darkening of the areola--the brown part around the nipple.
- Enlargement of Montgomery glands--the tiny nodules or sebaceous glands within the areola.
- Increased firmness or tenderness of the breasts.
- More prominent and visible veins due to the increased blood supply.
- Presence of colostrum (thin yellowish fluid that is the precursor of breast milk). This can be expressed during the second trimester and may even leak out in the latter part of the pregnancy.



Vaginal Changes

- Chadwick's sign. The vaginal walls have taken on a deeper color caused by the increased vascularity because of increased hormones.

  It is noted at the sixth week when associated with pregnancy. It may also be noted with a rapidly growing uterine tumor or any cause of pelvic congestion.
- Leukorrhea. This is an increase in the white or slightly gray mucoid discharge that has a faint musty odor. It is due to hyperplasia of vaginal epithelial cells of the cervix because of increased hormone level from the pregnancy. Leukorrhea is also present in vaginal infections.



Quickening (feeling of life)

- This is the first perception of fetal movement within the uterus. It usually occurs toward the end of the fifth month because of spasmodic flutter.
- A multigravida can feel quickening as early as 16 weeks.
- A primigravida usually cannot feel quickening until after 18 weeks.
- Once quickening has been established, the patient should be instructed to report any instance in which fetal movement is absent for a 24-hour period.

- Fetal movement early in pregnancy is frequently thought to be gas.



Skin Changes

- Striae gravidarum (stretch marks). Marks noted on the abdomen and/or buttocks caused by increased production or sensitivity to adrenocortical hormones during pregnancy.
- These marks may be seen on a patient with Cushing's disease or a patient with sudden weight gain.
- Chloasma. This is called the "Mask of pregnancy." It is a bronze type of facial coloration seen more on dark-haired women. It is seen after the sixteenth week of pregnancy.
- Fingernails. Some patients note marked thinning and softening by the sixth week.



Linea Nigra

- **Linea nigra**. A black line in the midline of the abdomen that may run from the sternum or umbilicus to the symphysis pubis.
- This appears on the primigravida by the third month and keeps pace with the rising height of the fundus.
- The entire line may appear on the multigravida before the third month.



Fatigue

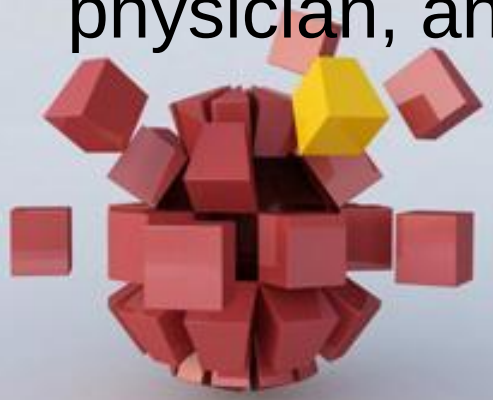
- This is a common complaint by most patients during the first trimester.
- Fatigue may also be a result of anemia, infection, emotional stress, or malignant disease.



Probable Signs of Pregnancy

- Probable signs of pregnancy are those signs commonly noted by the physician upon examination of the patient.

- These signs include uterine changes, abdominal changes, cervical changes, basal body temperature, positive pregnancy test by physician, and fetal palpation.



Uterine Changes

- Position. By the twelfth week, the uterus rises above the symphysis pubis and it should reach the xiphoid process by the 36th week of pregnancy. These guidelines are fairly accurate only as long as pregnancy is normal and there are no twins, tumors, or excessive amniotic fluid.
- Size. The uterine increases in width and length approximately five times its normal size. Its weight increases from 50 grams to 1,000 grams.



Hegar’s Sign

- This is softening of the lower uterine segment just above the cervix.
- When the uterine is compressed between examining fingers, the wall feels tissue paper thin.
- The physician will use bimanual maneuver simultaneously (abdominal and vaginal) and will cause the uterus to tilt forward
- The Hegar's sign is noted by the sixth to eighth week of pregnancy.



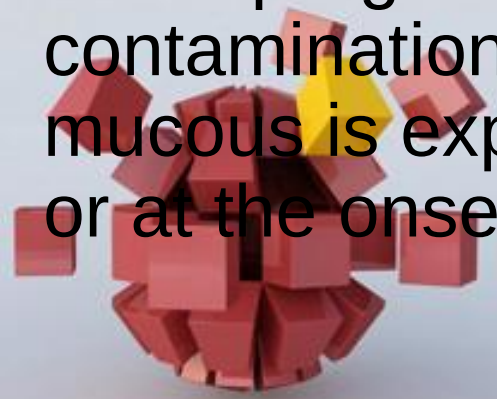
Abdominal changes

- This corresponds to changes that occur in the uterus, as the uterus grows the abdomen gets larger.
- Abdominal enlargement alone is not a sign of pregnancy.
- Enlargement may be due to uterine or ovarian tumors, or edema.
- Striae gravidarum may also be classified as a probable sign of pregnancy by the physician.



Cervical Changes

- Goodell's sign. The cervix is normally firm like the cartilage at the end of the nose. The Goodell's sign is when there is marked softening of the cervix. This is present at 6 weeks of pregnancy.
- Formation of a mucous plug. This is due to hyperplasia of the cervical glands as a result of increased hormones. It serves to seal the cervix of the pregnant uterus and to protect it from contamination by bacteria in the vagina. The mucous is expelled at the end of pregnancy near or at the onset of labor.



Braxton-Hick's contractions

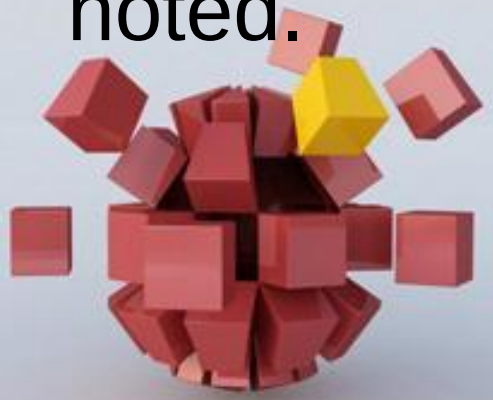
- This involves painless uterine contractions occurring throughout pregnancy.
- It usually begins about the 12th week of pregnancy and becomes progressively stronger.
- These contractions will, generally, cease with walking or other forms of exercise.
- The Braxton-Hick's contractions are distinct from contractions of true labor by the fact that they do not cause the cervix to dilate and can usually be stopped by walking.



Basal Body Temperature

- This is a good indication if the patient has been recording for several cycles previously.

- A persistent temperature elevation spanning over 3 weeks since ovulation is noted.



Positive Pregnancy test by the Clinician

- This may be misread by doing it too early or too late.
- Even if the test is positive, it could be the result of ectopic pregnancy or a hydatidiform mole (an abnormal growth of a fertilized ovum).
- Hydatidiform Mole



Fetal Palpation

- This is a probable sign in early pregnancy.
- The physician can palpate the abdomen and identify fetal parts.
- It is not always accurate, a mass in the abdomen may be palpated and mistakenly identified as an infant.



Positive signs of pregnancy

- Positive signs of pregnancy are those signs that are definitely confirmed as a pregnancy.

- They include fetal heart sounds, ultrasound scanning of the fetus, palpation of the entire fetus, palpation of fetal movements, x-ray, and actual delivery of an infant.



Fetal Heart Sounds

- The fetal heart begins beating by the 24th day following conception.
- It is audible with a doppler by 10 weeks of pregnancy and with a fetoscope after the 16th week.
- It is not to be confused with uterine souffle from pulsating uterine arteries.
- The normal fetal heart rate is 110 to 150 beats.
- **Ultrasound Scanning of the Fetus**. The gestation sac can be seen and photographed. An embryo as early as the 4th week after conception can be identified. The fetal parts begin to appear by the 10th week of gestation.



Positive signs of pregnancy

- Palpation of the Entire Fetus. Palpation must include the fetus head, back, and upper and lower body parts. This is a positive sign after the 24th week of pregnancy if the woman is not obese.

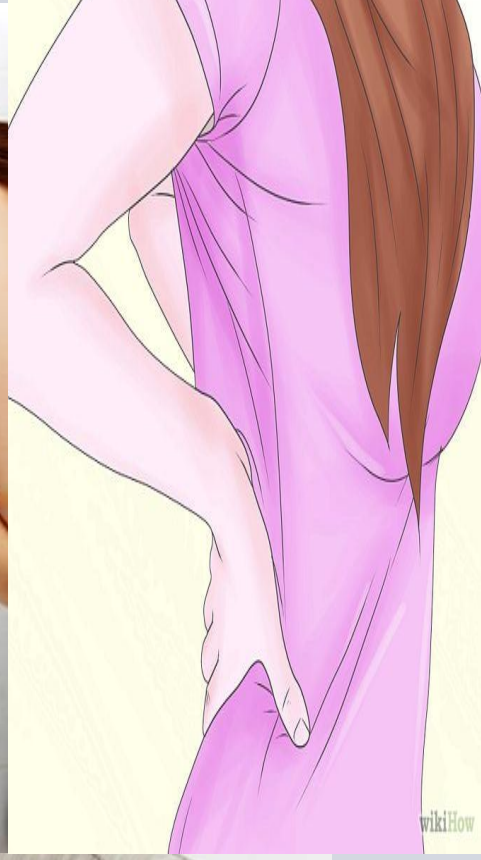
- Palpation of Fetal Movement. This is done by a trained examiner. It is easily elicited after 24 weeks of pregnancy.



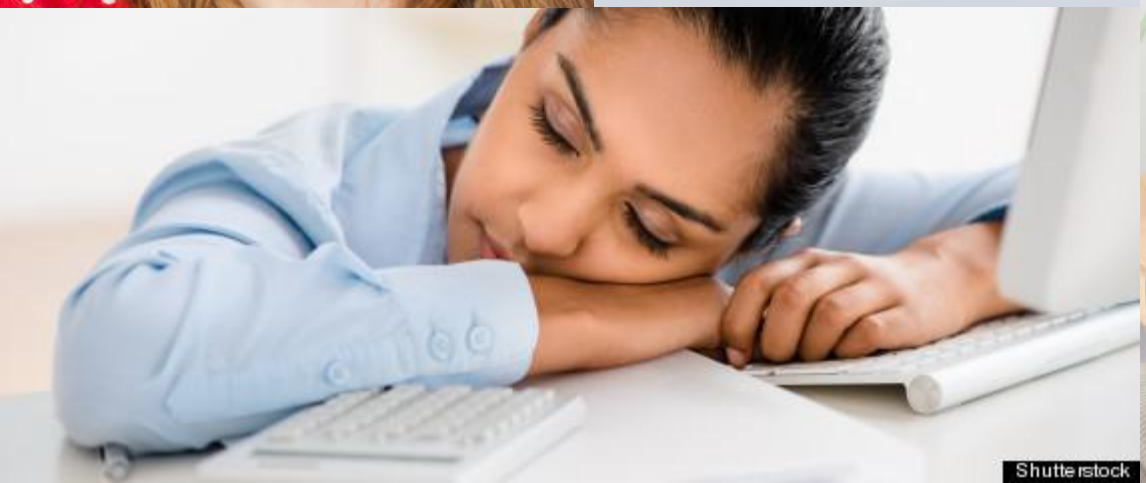


Abdominal Cramping Is A Sign Of Pregnancy





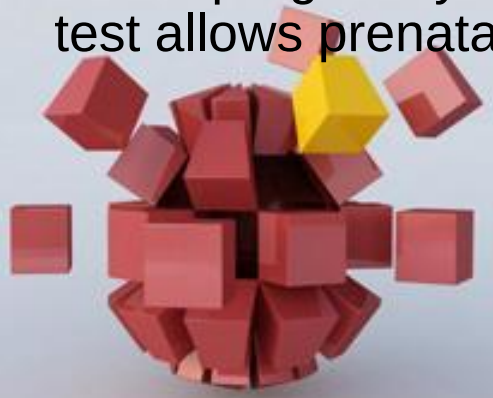






Tests utilized to determine pregnancy

- **TESTS UTILIZED TO DETERMINE PREGNANCY**
- Tests are based on the presence of human chorionic gonadotropin (HCG) in the urine or blood.
- Urine. This test can be performed accurately 42 days after the last menstrual period or 2 weeks after the first missed period. The first urine specimen of the morning is the best one to use.
- Blood. Radioimmunoassays (RIA) can detect HCG in the blood 2 days after implantation or 5 days before the first menstrual period is missed.
- **NOTE**: HCG levels peak between 50 to 90 days after the last menstrual period.
- Home pregnancy test kits are easily available and inexpensive. This test allows prenatal care to be started early.



Antenatal Care



Definition of Antenatal care

comprehensive health supervision of a pregnant woman before delivery

Or it is planned examination, observation and guidance given to the pregnant woman from conception till the time of labor.



Goals

- To reduce maternal and perinatal mortality and morbidity rates

- To improve the physical and mental health of women and children



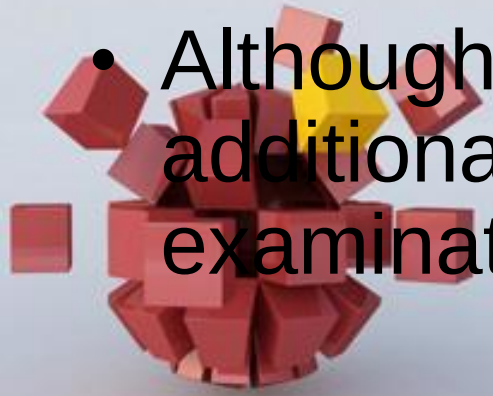
Importance of Antenatal Care

- To ensure that the pregnant woman and her fetus are in the best possible health.
- To detect early and treat properly complications
- Offering education for parenthood
- To prepare the woman for labor, lactation and care of her infant



Follow-up Visits: During Pregnancy

- Visits every 4 weeks up to 28 weeks gestation (during the 1st & 2nd trimesters).
- 29-36 weeks visits are scheduled q2 weeks.
- 37-40 weeks gestation visits are q week.
- Although less intense, visits include additional interview data & physical examination.



Healthy Living

- Stop smoking - give support
- Avoid alcohol in first 3 months. After that, no more than 1-2 units/week
- Exercise - no risk associated with moderate exercise but avoid contact sports, scuba diving and excessive joint stress
- Reassure that sex during pregnancy is thought to be safe
- Discourage women from using recreational drugs including cannabis

Dietary advice

- Recommend folic acid supplementation for first 12 weeks
- Advise of important of Vitamin D intake
- "Healthy Start" vitamins may be useful
- Advise of birth defects associated with Vitamin A, and to avoid Vitamin A supplements and liver.
- Advise how to reduce risk of listeriosis and salmonella

General

- Advise on the importance of avoiding infection including toxoplasmosis
- Recommend that women use as few OTC medicines as possible
- Ascertain a woman's occupation to identify risk but advise that it is usually safe to continue working
- Explain maternity rights and benefits
- Seatbelts should go "above and below the bump,but not over it.
- Advise women to discuss travel abroad and air travel with their midwife or doctor

fastbleep))

SOME WOMEN MAY NEED ADDITIONAL CARE IF THEY HAVE A HISTORY OF:

Medical conditions	Events in previous pregnancies
Cardiac disease	Recurrent miscarriage
Hypertension	Preterm birth
Endocrine disorders/diabetes	Severe pre-eclampsia/eclampsia
Psychiatric problems	Rhesus isoimmunisation
Autoimmune conditions	Caesarean section
Epilepsy	Puerperal psychosis
Cancer	Parity four or more
Severe asthma	Stillbirth/neonatal death
Obesity – BMI 30 or above	A baby with a congenital abnormality
Underweight – BMI below 18	A baby <2.5 kg or >4.5 kg
HIV/HBV infection	A small or large for gestational age baby
Use of recreational drugs	
Vulnerable women	
Women at higher risk of developing complications – i.e. aged 40 and older	

fastbleep

Blood and other tests

Your antenatal care will probably include these tests:

- Blood test to find your blood group (in case you are later in need of a blood transfusion) and to determine whether you are rhesus positive or rehesus negative.
- Blood test to see whether or not you are anaemic.
- Blood test to check for your immunity to rubella.
- Blood test to ensure that you free of hepatitis B and to check for HIV if you agree to the test.
- Blood test for syphilis.
- Blood test to see if you are at risk of any of a large number of disorders, which include sickle cell disease, B-thalassaemia, cystic fibrosis, Down's syndrome.
- Urine test in order to check for kidney disease, diabetes and urinary tract disease such as cystitis.
- Cervical smear, unless one has already been carried out recently.
- Gonorrhoea and chlamydia tests of your cervix, if you are at risk.

ANTENATAL SCREENING AND TESTS

You may be offered one or more of these procedures if you are at risk. Discuss in advance the implications if your baby is found to have one of these conditions.

Procedure	When	To identify condition
Chorionic villus sampling	between weeks 9 and 11	*chromosome abnormality*
Alphafetoprotein blood test	between weeks 15 and 22	*foetal abnormality, including spinal cord defects*
Amniocentesis	between weeks 15 and 20	*chromosome abnormality*
Ultrasound scan	from 18 weeks	*defects of spinal cord, other foetal abnormalities. Check growth and well-being*
Cordocentesis (foetal blood sampling)	from week 20	*rhesus negative mother with antibodies that may destroy baby's blood cells*

Thank you

