

Journal

What can cause a birth defect? Do you know anyone who has had a baby with a birth defect? Could it have been prevented?

Text

Read pgs. 243-247

Do Review #8-10 pg. 256

Family Planning

Why?

How?

Why?

- If pregnancies are not planned, couples who are more fertile will have a child every 14 months for 25 years.
- That makes you the parent of 21 children!

Other Reasons

- Experts in child development recommend 3-4 years space between children.
- Less than two years spacing is difficult for mothers who need time for their bodies to return to normal.
- Two children under the age of two creates much stress on the family.

Historical Contraception & Superstitions

- Egypt as early as 1550 BC used a tampon soaked with honey and ground acacia tips.
- Greeks took two legs from a spider and attaching them to the woman with deerskin.
- Jump backwards seven times after intercourse.
- Spit into a frogs mouth three times.
- Tie willow seeds around your neck.
- Drink water that has been used to wash the dead.
- By 1700, sheep gut was used as condoms.

4 types of Contraception

- Natural
- Barrier
- Surgical
- Chemical

Natural Methods

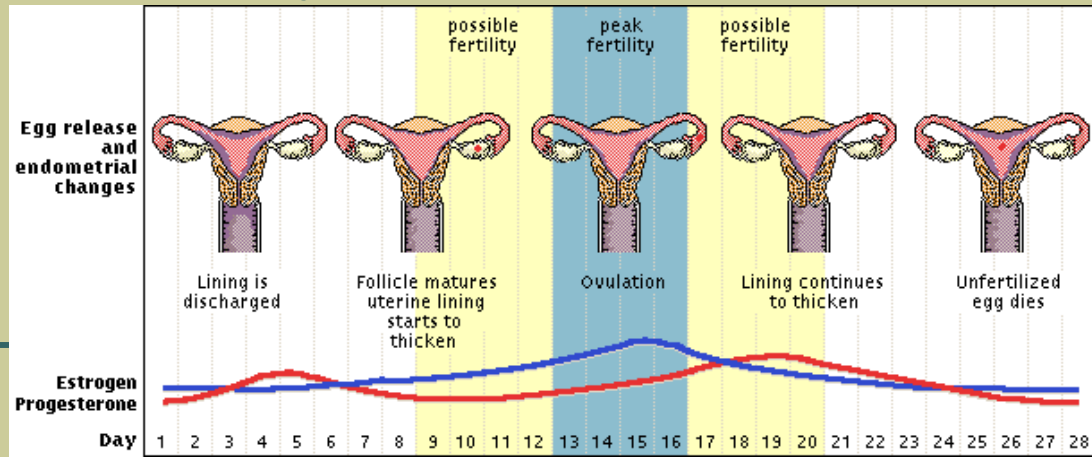
Effectiveness

-
- **Chance**
 - no contraception used
 - **Abstinence**
 - No intercourse
 - **Withdrawal**
 - Withdrawal of the penis before ejaculation occurs
 - **Natural Family Planning**
 - Calculate ovulation date
- 11%
 - 100%
 - Ineffective
 - 80%

Menstrual Cycle

A typical menstrual cycle lasts 28 days. It begins with three to five days of menstruation, the shedding of the uterine lining, during which hormone levels are low. The uterine lining thickens further and swells in preparation for the implantation of a fertilized egg. If fertilization does not take place, the ovum dies and hormone levels fall. Without hormonal support, the uterine lining disintegrates and discharges, beginning a new menstrual period and cycle.

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Barrier Methods

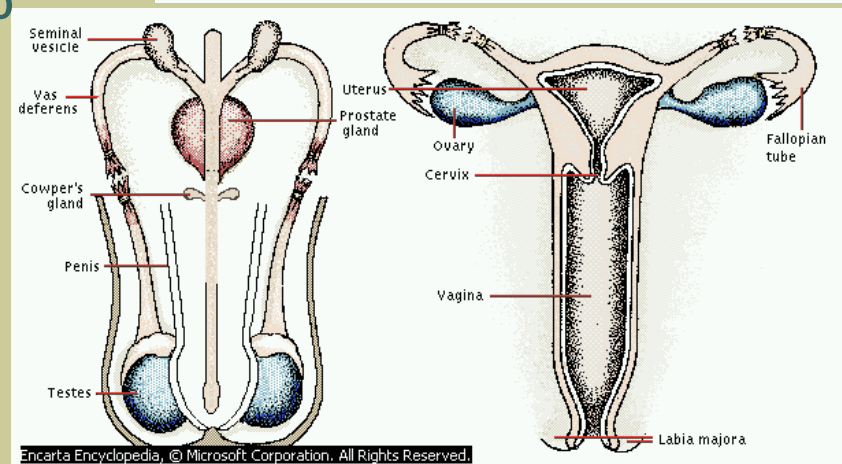
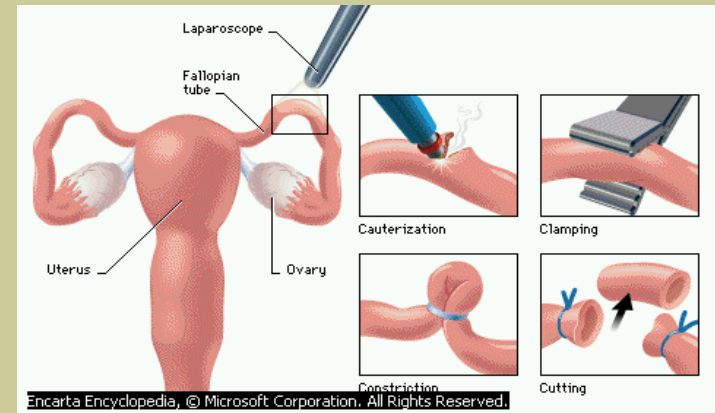
Effectiveness

-
- **Condom** ● 88%
 - A device used by males that collects the semen and keeps it from entering the vagina.
 - **Female Condom** ● 80%
 - Used in the vagina to collect semen and prevent it from entering the uterus.
 - **Diaphragm/cervical cap** ● 83%
 - Flexible rubber cup which covers the cervix to keep sperm from entering.
 - **IUD (Intrauterine Device)** ● 94-98%
 - Small plastic device that changes the lining of the uterus so a fertilized egg will not attach.

Surgical Methods

Effectiveness

- Tubal Ligation
 - 99+%
 - Fallopian tubes are cut and tied, preventing ovum from meeting sperm.
 - 99+%
- Vasectomy
 - Vas deferens are cut and tied to prevent sperm from being added to the semen.



Chemical Methods

Effectiveness

-
- Pill
 - Progesterone and estrogen blocks ovulation.
 - Progesterone, changes cervical mucous so sperm cannot enter.
 - Spermicides
 - Sperm killers
 - Norplant
 - 1" tube implanted under the skin of the female's forearm. Contains progesterone and is effective for 5 years.
 - Depo-Provera
 - Shots every 3 months. Mimics progesterone.
- 97%
 - 79-82%
 - 97%
 - 99%

Baby in a

Blanket

Problem

Pregnancies

Birth Defects

An abnormality of structure, function or body metabolism which often results in a physical or mental handicap, shortens life or is fatal.

It may be inherited or may result from environmental interference such as maternal disease, drugs, malnutrition, outside pollutants, infections or radiation.

Types of Birth Defects

- Malformations Present at Birth
 - Congenital heart malformation, spina bifida, cleft palate, clubfoot
- Inborn Errors of Metabolism
 - PKU, Tay Sachs disease
- Blood Disorders
 - Sickle Cell Anemia, Hemophilia
- Chromosomal Abnormalities
 - Down's Syndrome, Klinefelter Syndrome, Turner Syndrome
- Perinatal Damage
 - Infections, drugs, diabetes, Rh disease, umbilical cord accident, difficult labor or delivery, premature birth.

Preventable Birth Defects

- Nutrition
 - Eat dark leafy greens, meats, eggs and milk
 - Avoid salt, caffeine, and nutri-sweet
- STD's
- Alcohol
- Smoking
- Drugs
 - Aspirin can cause hemorrhaging.
- Rubella (Measles)
 - May cause loss of hearing, vision, damaged heart, mental retardation, death
- Parasites
 - Avoid cat feces and undercooked food.
- Radiation
 - Causes a break-down of the bones and stops growth.

Ectopic Pregnancy

- Tubal Pregnancy
- The egg attaches to the wall of the fallopian tube instead of the uterine wall.
- 1 in 300 pregnancies are ectopic.

Multiple Births

- The lack of space is a problem.
- The uterus can only hold so much which causes the mother to deliver before the babies are fully matured.
- Twins occur about 1 in 87 births
- Triplets occur in 1 in 7000 births
- Quadruplets 1 in 550,000 births
- Quintuplets 1 in 57,000,000 births
- Fertility drugs alter these statistics.

Rh Factor

- Most people have the Rh factor, a substance found in the red blood cells (Rh positive).
- Those who lack the Rh factor are Rh negative.
- A Rh negative woman that is carrying an Rh positive fetus is at risk of losing the baby unless given special immunizations.
- One must consider this in blood transfusions.

Genetic Defects

- Defects or abnormalities that are hereditary.
- They are passed from parents to their offspring by the reproductive cells (sperm and egg).
- If either of the prospective parents knows that their families have genetic abnormalities, they should consult with their family physician.
- Some of the more common defects are Down's Syndrome, Phenylketonuria, Sickle Cell Anemia, Diabetes, Tay Sachs Disease and Hemophilia.

Down Syndrome

- A chromosomal disorder that results in mild to severe learning disabilities and physical symptoms that include a small skull, extra folds of skin under the eyes, and a flattened nose bridge.
- Down syndrome results when a person inherits all or part of an extra copy of chromosome 21.
- There is no cure for Down syndrome.

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Phenylketonuria (PKU)

- A rare hereditary disease in newborns in which the enzyme that processes a particular amino acid is defective or missing.
- PKU can build up in the blood, damaging an infant's developing central nervous system. This can eventually cause mental retardation, seizures, tremors, behavioral disorders, and some forms of mental illness.
- PKU is an autosomal recessive genetic disorder, a child must inherit a defective gene from both parents.
- PKU testing is now mandatory for all newborn babies in the United States before they leave the hospital.

Sickle-Cell Anemia

- A genetic disorder of the blood causing infections, damaging major organs, and pain in the back, chest, abdomen, and extremities.
- Symptoms appear at about six months and include infections, pain and swelling in the hands and feet, and an enlarged abdomen and heart.
- It is caused by a defective gene that produces an abnormal form of hemoglobin.
- These distorted cells are called sickled cells because of their sickle shape, a crescent-shaped cutting blade.
- It is autosomal recessive, so if both parents are carriers, they have a one in four chance for each child to have sickle-cell anemia.

Diabetes

- The pancreas does not function properly.
- The body does not carry on normal metabolism of sugar.

Tay-Sachs Disease

- A rare genetic disorder of the central nervous system, causing brain deterioration and death.
- Babies born with TSD appear normal for about six months but then develop signs of rapid deterioration of physical and mental functions leading to blindness, seizures, mental retardation, inability to swallow, respiratory problems, and paralysis.
- There is no cure for TSD. Children with the disease usually die by the age of five.
- TSD is an autosomal recessive genetic disorder.

Hemophilia

- A hereditary blood disease characterized by the inability of blood to clot, leading to hemorrhage, or excessive bleeding, even from minor injuries.
- The disease is caused by an insufficiency of certain blood proteins, called factors, that participate in blood clotting.
- A classic case of the transmission of hemophilia involves Queen Victoria of Britain, whose daughters married into the Spanish and Russian royal houses, thereby transmitting the gene for this disease to those lineages.
- Unfortunately, a high percentage of hemophiliacs have already been exposed to the AIDS virus.

Spontaneous Abortion Miscarriage

- When the baby is involuntarily expelled before it is able to survive on its own.
- Usually nature's way of eliminating an abnormal pregnancy.
- 15% (1 in 6) of all pregnancies end in miscarriage.
- 25-50% of miscarriages are a result of chromosomal problems.
- Most occur in the first trimester. The baby usually dies two to four weeks before it is expelled.
- If all of the products of conception are not completely expelled, it may be necessary to have a D&C where the walls of the uterus are scraped to remove the remaining tissue.

Common Causes of Miscarriage

- Infection – any type may be carried in the body may be dangerous to the fetus.
- Old Ovum – when the egg is fertilized just before it dies.
- Defective Implantation – the placenta breaks loose due to a lack of hormones.
- Cord Accidents – the cord may be torn off or twisted.

Causes Continued

- Placenta Praevia – the placenta is low in the uterus or may even cover the cervix and precedes the baby.
- Placenta Abruptio – premature separation from uterine wall.
- Toxemia – near the 24th week. The mother has high blood pressure, swelling, puffy fingers and feet. The body does not use the protein correctly. Occurs in 10% of all pregnancies. It is usually mild but it can cause convulsions, stillbirths or maternal death.
- Hemorrhage (bleeding) – Usually caused by placenta abruptio or placenta praevia.

Drugs

- No drugs should be taken by a pregnant woman, unless prescribed by a physician.
- 90% of over-the-counter drugs available have never been tested for their effects on the unborn.
- No pregnant woman should take any illegal drug because of the high rate of birth defects.
- Men planning for future fatherhood, should not use illegal drugs because of the effect upon the sperm.

Alcohol

- Fetal Alcohol Syndrome (FAS) includes brain injury, growth impairment, facial deformity and congenital heart defects.
- A small head is seen in many of these infants and reflects the brain growth.
- Occurs with only 2 ounces of alcohol/day.
- Significant neurological impairment can occur with only 1 ounce per day.
- Fetal Alcohol Effects (FAE) are seen in infants whose mothers drank moderately.

Cocaine and Crack

- Prematurity, neonatal intoxication and withdrawal, decreased alertness, and an increase of SIDS.
- Symptoms in the baby include: jitteriness, excessive crying, increased appetite, extreme irritability.
- Long term effects include learning disabilities, behavior problems and Attention Deficit Disorder.

Tranquilizers

- Diazepam, Valium are examples.
- The baby will go through withdrawals for 8-10 days.
- Effects on baby: lethargy, respiratory difficulties, apneic spells (breathing problems), can't regulate temperature, hypotonia (muscles), and failure to suck effectively.

Barbiturates

- Similar symptoms as the Fetal Alcohol Syndrome.
- Symptoms of withdrawal may not occur until 4-7 days after birth.

Phencyclidine (PCP, Angeldust)

- Fetal effects: growth retardation, developmental delays.
- Withdrawal may not be apparent until 5-7 days after birth.

Narcotics

(Heroin, Methadone)

- Heroin and Methadone effect the baby differently.
- Both go through intense withdrawal but at different time periods.
- Withdrawal in infants can be life threatening.
- Tremors, restlessness, insomnia, increased sucking reflex, and a high pitched cry.

Marijuana

- Marijuana crosses the placenta and is also found in breast milk.
- Small birth weight and decreased learning ability.
- Alcohol with marijuana increases the potency of the alcohol.
- May cause extremity deformities.

Smoking

- Low birth weight babies.
- 20-40% of low birth weight babies are related to maternal smoking.
- Maternal smoking increases the risk of SIDS.
- Increased risk of spontaneous abortion, fetal death, low implantation of the placenta, premature separation of the placenta, bleeding and pre-term delivery.

Premature Babies

A baby born before the completion of the 37th week or under 5 pounds.

Social

- Economical
- Nutrition
- Young mother
- Single mom

Age

- Under 16
- Mother over 35
- Father over 40, lower sperm count

Maternal Size

- Petite woman, under 5'4"
- Under or over weight
- Had many children so body is worn out.

Maternal Diseases

- Toxemia
- Gestational Diabetes

Maternal Infections

Maternal Addictions

- Law against having an addicted baby.

Multiple Births

Placenta Abruption

Human Reproduction Vocabulary

- Complete the best you can.
- Go over with your parents.
- Look up any words you do not know.
- Bring to class completed next time.

Internet Quiz

Family Planning and Birth Defects