



## Contraception



4235 6-08



## Learning objectives

- Describe the role of the nurse in helping couples choose contraceptive methods
- Describe methods of contraception and implications for health care and education
- Compare and contrast methods in terms of safety, effectiveness, convenience, education required to use, expense and preference
- Explain mechanism of action for each method



## Concepts



Safety



Communication



Health Maintenance/Promotion



Psychosocial



## Introduction



Family Planning (FP) involves both contraception and conception



FP can not be left to chance - 90% of couples who don't use contraception will become pregnant with in one year



Approximately 50% of all pregnancies unintended

- May result in economic hardship, interfere with education/career plans

- About 50% of unintended pregnancies result from improper use or failure of contraceptive
- Chances of complications and death from pregnancy higher than from birth control
  
- Role of Nurse in Contraception
- Mainly that of counselor and educator
- Must have current and correct information
- Must be individualized to each client
- Informed consent essential
  
- Considerations when choosing method
- No method is perfect
- Must consider
  - Safety
  - Protection from STIs
  - Effectiveness
  - Acceptability
  - Convenience
  - Education needed
  - Side effects
  - Benefits/Risks
  - Interference with spontaneity

- Availability
- Expense
- Client preference
- Religious and cultural beliefs

- Methods of Contraception
- Abstinence and natural methods
- Sterilization
- Tubal ligation
- Vasectomy
- Intrauterine device (IUD)
- Hormonal contraception
- Mechanical barriers
- Abstinence
- Avoidance of sexual intercourse or any activity that might allow sperm to enter vagina
- Requires perfect use to be effective
- 100% effective if used as described above
- Cost: Free

- Sterilization
- Expensive
- Should be considered permanent
  - Reversal expensive, not always successful, not covered by insurance normally
- Future divorce, remarriage, death of child may cause regret
- Risk of failure rare
- BPS or Tubal Ligation
- Most common form of contraception
- Effectiveness rate 99.5%
- Tube are cut, tied, cauterized depending on type surgery performed
- Easiest right after childbirth
- Can also insert small coil called Essure into tube, tissue grows into coil blocking tubes in about 3 months
- Advantages
  - Few complications
  - Short recovery
  - Small or no scar
  - Quickly performed
  - Inexpensive over long term

- Permanent

- Disadvantages

- Permanent

- Reversal difficult and expensive

- Technically difficult

- Requires surgeon, anesthesia, etc

- Expensive at time done

- If fails, high chance of ectopic

- No protection against STIs

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- Vasectomy

- Easier and cheaper than BPS

- Effectiveness 99.85%

- Small puncture in scrotum and cut vas deferens

- Takes about 2-3 months to clear all sperm from semen

- Apply ice to area

- Advantages

- Very effective

- Relieves woman of responsibility for contraception

- Inexpensive in long run

- Permanent

- Very safe
- Quickly performed

- Disadvantages

- Expensive in short term
- Permanent
- Regret in 5-10% of clients
- No protection against STIs
- Not effective until all remaining sperm are ejaculated

- Hormonal Contraception

- Alters normal hormone fluctuations of menstrual cycle

- May be combined or progestin only

- Progestin only
  - Implanon
  - Injection
  - Oral pills or mini-pills
  - “Plan B”
  - Levonorgestrel- releasing intrauterine system
- Combined hormones
  - Oral pills
  - Transdermal patch
  - Vaginal ring
  - Preven



## About Implanon



Soft, flexible capsule about 1 ½ " in size



Inserted under skin in upper, inner arm



Progestin only



Prevents pregnancy by

— Inhibiting ovulation

— Thickening cervical mucus



Last for 3 years



99% effective, but not tested in overweight women



Costs \$400-800 plus \$75-150 to remove



## Implanon Benefits



Ability to become pregnant returns quickly when implant removed



Can be used while breastfeeding



Can be used by women who cannot take estrogen



Gives continuous long-lasting birth control without sterilization



No medicine to take every day



Nothing needs to be put in place before vaginal intercourse

- Implanon Side Effects

- Irregular bleeding is the most common side effect, especially in the first 6–12 months of use.

- Less common side effects

- acne and discoloration of skin
- change in appetite
- change in sex drive, vaginal dryness
- cysts on the ovaries
- depression, mood swings
- discoloring or scarring of the skin over the implant
- dizziness
- hair loss
- headache
- nausea
- nervousness
- pain at the insertion site
- sore breasts



## Implanon Risks



### **Danger Signs (ACHES)**

- arm or leg pain/numbness
- chest pain or shortness of breath
- migraine or other severe headache.
- eye problems (blurred vision)
- severe pain in the stomach or abdomen.



### Other serious problems

- bleeding, pus, and increasing redness or pain at insertion site.
- new lump in your breast.
- unusually heavy or prolonged bleeding from your vagina.
- the implant comes out.



## About Depo Provera and Depo SQ Provera



Is injectable progestin



99.7% effective



Prevents ovulation for 3 months



Costs about \$35-75 per shot



Administration

- Depo provera given IM
- Depo SQ provera given SQ
- Like Implanon, should be given within first 5-7 days of menses with BUM for 2 weeks

- Then every 3 months

- Advantages

- Can be used by women who cannot take estrogen
- No medicine to take every day
- Nothing needs to be put in place before vaginal intercourse
- Can be used if breastfeeding

- Disadvantages

- Fertility returns in about 10-18 months after discontinuation

- Depo Side Effects

- Most common is irregular bleeding, similar to Implanon

- Other side effects

- Weight gain
- Headaches
- Depression
- Hair loss
- Decreased bone density with long term use

- About the “Mini Pill” or the Progestin Only Pill
- Useful for women who can’t take estrogen
- Overall less effective
  - if misses pill or doesn’t take at same time q day, risk for pregnancy increases more than with combined OCs
- Prevents pregnancy by
  - thickening cervical mucus
  - making endometrial lining unfavorable for implantation
- Cost
  - \$15-50 per pack (month supply)
- Common side effect
  - breakthrough bleeding
- About Combined Oral Contraceptive Pills
- Contains both estrogen and progestin
  - Works by simulating pregnancy; prevents ovulation, thickens cervical mucus, makes endometrium unreceptive
- 95% effective
  - higher if taken correctly
- Comes in 21 or 28 tablets
  - Also available 12 weeks of pills
- Also available as
  - Monophasic- estrogen and progestin dose same all month
  - Multiphasic- estrogen and progestin doses change during cycle
    - Must be taken in proper order

- Cost: \$15-50 per month

#### COCs Benefits

- Reduces ovarian and endometrial cancer up to 50%, effects last for years
- Regulates menstrual cycle, decreases cramping, blood loss and anemia
- Decreased incidence of
  - Benign breast disease
  - Ovarian cysts
  - Ectopic pregnancy
- Improves
  - Acne
  - Endometriosis
  - PMS
  - Dysmenorrhea
  - Bone mass
  - Uterine fibroids



#### COC Risks

- Smoking increases risk of complications at all ages
- Other complication risk factors
  - Diabetes
  - Hypertension
  - Hypercholesteremia
  - Obesity
- Risks
  - No STI protection
  - May affect CHO metabolism

- May increase risk of breast and cervical cancer
- Increased risk of
  - Thrombosis
  - Pulmonary embolism
  - MI
  - CVA
  - HTN
  - Migraines
  - GB disease

- OC  
Contraindications

- Women with history of:
  - Thromboembolic disorder
  - CVA or CVD
  - Breast or estrogen dependent cancers
  - Liver tumors both benign and malignant
  - HTN unless well controlled

- Women who currently have
  - Any of the above conditions
  - Impaired liver function
  - Suspected or known pregnancy
  - Undiagnosed vaginal bleeding
  - Heavy cigarette smoking
  - Any cigarette smoking over age 35



## COC Side Effects



Most are minor



Often decrease with continued use



Less common with low dose formulations



Includes

- Headache

- Nausea

- Breast tenderness

- Break through bleeding

- Weight gain/loss

- Fluid retention

- Amenorrhea

- Chloasma



## COC Education



Education should include

- Start methods

- What to do about missed doses

- Use of BUM

- Efficacy with other medications
- Use in postpartum and lactation
- Warning signs (ACHES)

- About the Transdermal Patch
- Called Evra
- 99% effective is used perfectly
- Releases small amounts of estrogen and progestin to inhibit ovulation, thicken cervical mucus
- Apply to abdomen, buttock or upper torso, but not on breast
- Apply new patch, wear for 7 days
  - Then apply new patch weekly for 2 more weeks (3 wks total)
  - Leave patch off x 1 week
- May be less effective if weight > 198#
- Benefits, risks, side effects similar to COCs

- About the Vaginal Ring
- Called NuvaRing
- Soft flexible ring inserted into vagina and left in place for 3 weeks, then removed for one week, use BUM x 1 week at start
- New ring is then inserted
- Inhibits ovulation, thickens cervical mucus

- Side effects
  - Expulsion
  - Vaginal discharge, infection
  - Vaginal discomfort
  - Other side effects similar to COCs
- Can be removed for up to 3 hours
  - If out longer, need BUM till ring worn continuously for 7 days
- Emergency Contraception
- Also called “morning after pill”
- Method to prevent pregnancy *after* unprotected intercourse
  - Condom breaking
  - Rape
  - Incorrect use or failure to use contraceptive
- Works by delaying or inhibiting ovulation, thickening cervical mucus and altering endometrium
- No contraindications
- Does not harm fetus already implanted



## EC Methods

- Common method is taking larger than normal dose of COCs ASAP within 72 hours after unprotected intercourse
  - Then repeat dose 12 hours later
  - Dose varies according to type pill
- Also available as progestin only or combined
  - Progestin only called Plan B
  - Combined is called Preven
- Both about 75% effective
- Can also insert copper IUD within 5 days
  - 99% effect; alters endometrium
- Mifepristone (RU 486)
  - Is an abortifacient



## Side Effects

- COCs often causes nausea/vomiting d/t large dose
  - Give anti-emetics prior to giving COCs
- Progestin only has less N/V



## Barrier Methods



Barrier methods divided into mechanical and chemical

- Mechanical

- IUD
- Diaphragm
- Cervical cap
- Contraceptive sponge
- Female and male condoms

- Chemical

- Spermicides nonoxynol-9 and octoxynol

- About the Intrauterine Device
- Are inserted into uterus
- Two types
  - Copper T (Paraguard)
    - Works for 10 years
  - Levonorgestrel system (LNG-IUS or Mirena)
    - Effective for 5 years
- Exact mechanism unknown
  - ? Inflammatory process that kills sperm
  - Alters endometrium
- Over 99% effective
- Should be used only in mutually monogamous relationship with low STI risk
- Cost : \$175-500

- IUD Side Effects/  
Contraindications

- Side Effects

- Cramping and bleeding with insertion
- Menorrhagia - increased with copper T
- Dysmenorrhea - increased with copper T
- Expulsion
- Uterine perforation
- Ectopic pregnancy or SAB

- Contraindications

- Nulliparous women
- Pelvic infections
- History of ectopic
- Bleeding disorders
- Uterine anomalies

- IUD Education

- Teach to check for presence of string at cervix

- 1 X weekly for first 4 weeks
- Then once monthly after menses

- Also should note if strings longer or shorter than usual

- Watch for signs of infection/pregnancy

- About the Diaphragm
- Is a latex dome surrounded by spring or coil
- Used with spermicidal cream/ gel placed in dome and around rim
- Inserted into vagina and positioned over cervix
- Must be fitted by MD, NP, CNM
  - Re-eval fit yearly, after weight loss or gain of > 10 pounds, after each pregnancy
- 84-94 % effective
- Cost \$15-75 per diaphragm plus cost of spermicide
- Pressure on urethra may lead to UTI

- Diaphragm Education

- Watch for symptoms of UTI
- Do not use if history of TTS or latex allergy
- Diaphragm damaged by oil based lubricants and some vaginal meds
- Must be left in place for minimum of 6 hours after intercourse, but no longer than 24 hours
- If over 2 hours since insertion or if having repeated sex, then insert more spermicide into vagina
- After use, wash with mild soap and dry well
- Inspect for holes by holding up to light or filling with water



## Cervical Cap



Mentioned in your text, however no longer available in U.S.



Is a thimble-like smaller version of a diaphragm that fit tightly over cervix



## About the Sponge



Called the Today sponge



Made of soft polyurethane foam impregnated with spermicide

— Moisten with water before use



Must leave in vagina like diaphragm, but no need to add more spermicide with additional sex acts



Don't use if allergic to polyurethane or spermicide



Don't use during menses



Don't use if history of TSS



68-80% effective

— More effective if never given birth



Cost \$9-15 for 3 sponges



## About Male Condoms



Cover penis to prevent sperm from entering vagina

— Should be used even if other BC or woman pregnant to prevent disease

- Usually made of latex and covered with spermicide
  - If allergic to latex, may use condom made of other materials
    - Polyurethane – thinner need more lubrication to prevent breakage
    - Natural materials don't prevent passage of viruses
- 86-98 % effective
- Cost: about \$1 each
  
- Male Condom Education
- Latex condoms most effective
- Check condom for expiration date and damage before use
- Use water soluble lubricant
- Apply condom before any penile contact
- Squeeze air out of tip, leave ½ " reservoir space, roll onto erect penis
- Withdraw from vagina before it becomes soft, holding onto top of condom to prevent spillage
- Use new condom each time
  
- About the Female Condom
- Polyurethane sheath inserted into vagina
  - Flexible ring fits over cervix like diaphragm, another ring extends outside vagina to cover perineum
- 79-95 % effective

- Cost: about \$4 each
  
- About Spermicides
- Comes in many forms
  - Creams
  - Gels
  - Foams
  - Tablets
  - Suppositories
  - Vaginal films
  
- 79-85% effective when used alone, higher when used with condom
  
- Cost: about \$8 per package
  
- Spermicide  
Education
  
- Insert deep into vagina so in contact with cervix
  
- Should be used just before intercourse
  
- Are effective for about 1 hour
  
- Films and suppositories must melt before effective - takes about 15 min
  
- Must re-apply before repeated intercourse
  
- Should be used with condom for increased protection

- Do not douche for at least 6 hours after sex
  
- Spermicide  
Side Effects
  
- Frequent use may cause irritability
  - May result in increased risk for infections
  
- Some may feel it
  - Is messy
  - Interferes with spontaneity of love making
  
  
- About NFP or Fertility Awareness
  
- Several methods available
  
- Uses physiologic cues to predict ovulation avoid coitus when fertile
  
- Can also be used to help women conceive
  
- Based on knowledge that egg viable for 24 hours and sperm can survive for up to 5 days
  
- Avoids use of chemicals, drugs and devices
  
- Acceptable to most religious groups
  
- Couple must be highly motivated as must abstain for about half the time
  
- Effectiveness depends on method - overall is about 80%
  
- Cost: none except for possible purchase of basal body thermometer



## FNP Methods



### Calendar/Rhythm

- Based on fact that ovulation occurs 14 days before next menses
- Unreliable if menses irregular
- Many factors can throw it off



### Basal Body Temperature (BBT)

- Chart oral temp daily with special thermometer each morning
- Temp drops slightly before ovulation
- Then rises .04-.08 F with ovulation and stays elevated if pregnant, falls about 2-4 days before menses if not
- No longer fertile on night of third day after temp rise
- Unreliable d/t small changes, intercourse day before rise may result in conception



### Cervical mucus

- Also called Billings or ovulation method
- Based on changes in cervical secretions
- No mucus for first 3-4 days after menses, then thick and sticky mucus appears
- Around ovulation, mucus becomes clear, slippery and stretchy like egg white (spinnbarkeit)
- Couple must avoid intercourse from time any mucus first present until 4 days after end of slippery mucus
- Intercourse only allowed q other day when no mucus because semen interferes with mucus assessment



### Symptothermal Method

- Combines calendar, basal body temperature and cervical mucus methods

- Breastfeeding
- Also called Lactational Amenorrhea Method (LAM)
- Must breastfeed
  - Without supplements
  - Nurse 6 times a day on both breasts
  - Feed at least q 4 hours
  - Must not have had period since delivery
  - Feeds at night at least q 6 hours
  - Effective for only about 6 months
  - 98% effective if used with stipulations as above
  - Cost : Free

- Withdrawal or Coitus Interruptus
- Means to withdraw penis prior to ejaculation
- Requires great control by male
- May be unsatisfying to both partners
- Pre-ejaculate may contain sperm
- Semen spilled on vulva may result in pregnancy
- 73-96% effective
- Cost : Free