

Aim: Study of family planning devices and pregnancy diagnosis test.

References

1. World Health Organization. (2021). Family Planning/Contraception Methods. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception>
2. Centers for Disease Control and Prevention. (2021). Contraception. Retrieved from <https://www.cdc.gov/reproductivehealth/contraception/index.htm>

Introduction

Family planning devices and pregnancy diagnosis tests are crucial for managing reproductive health. They help individuals and couples plan their families and make informed decisions regarding reproduction. This detailed practical provides comprehensive information on various family planning devices, their use, effectiveness, advantages, and limitations, as well as the proper use of pregnancy diagnosis tests.

Family Planning Devices

Family planning devices can be categorized into barrier methods, hormonal methods, intrauterine devices (IUDs), and permanent methods. Each category includes several types of devices with specific usage instructions.

1. Barrier Methods

Barrier methods prevent sperm from reaching the egg. They are user-dependent and must be used during each act of intercourse.

Male Condoms

Made of latex, polyurethane, or lambskin, male condoms are worn over the penis. They are effective in preventing both pregnancy and sexually transmitted infections (STIs).

- How to Use:

1. Check the expiration date and package integrity.
2. Carefully open the package to avoid tearing the condom.
3. Pinch the tip of the condom to leave space for semen collection.
4. Roll the condom down the erect penis, ensuring no air bubbles.

5. After ejaculation, hold the condom at the base and withdraw while the penis is still erect.
6. Dispose of the condom in the trash (not the toilet).

Female Condoms

Made of nitrile or polyurethane, female condoms are inserted into the vagina before intercourse. They provide a barrier between sperm and the cervix.

- How to Use:

1. Check the expiration date and package integrity.
2. Carefully open the package.
3. Hold the inner ring and squeeze it to insert into the vagina.
4. Push the inner ring as far up as possible to cover the cervix.
5. The outer ring should remain outside the vagina.
6. After intercourse, twist the outer ring to seal in semen and gently pull out.
7. Dispose of the condom in the trash.

2. Hormonal Methods

Hormonal methods involve the use of hormones to prevent ovulation, thicken cervical mucus, or alter the uterine lining to prevent pregnancy.

Oral Contraceptives (The Pill)

Contain estrogen and progestin, or progestin only. They need to be taken daily.

- How to Use:

1. Take one pill at the same time every day.
2. Follow the pack instructions (21 active pills followed by 7 placebo pills or continuous active pills).

3. If a pill is missed, follow the instructions for missed pills (usually take as soon as remembered).

Contraceptive Patch

A patch that releases hormones through the skin, replaced weekly.

- How to Use:

1. Apply the patch to clean, dry skin on the buttocks, abdomen, upper arm, or back.
2. Replace the patch weekly on the same day for three weeks.
3. No patch is worn during the fourth week to allow for menstruation.

Vaginal Ring

A flexible ring inserted into the vagina, releasing hormones for three weeks.

- How to Use:

1. Insert the ring into the vagina, ensuring it is placed comfortably.
2. Leave the ring in place for three weeks.
3. Remove the ring in the fourth week to allow for menstruation.
4. Insert a new ring after the fourth week.

Injectable Contraceptives

Injections of progestin every three months.

- How to Use:

1. Visit a healthcare provider for the injection.
2. Injections are given every three months.
3. Schedule the next injection before the current one expires.

Implants

Small rods placed under the skin that release progestin over several years.

- How to Use:

1. A healthcare provider inserts the implant under the skin of the upper arm.

2. The implant releases hormones for up to several years.
3. Visit the provider to remove or replace the implant as needed.

3. Intrauterine Devices (IUDs)

IUDs are small devices inserted into the uterus by a healthcare provider. They can be hormonal or non-hormonal (copper).

Hormonal IUDs

Hormonal intrauterine devices (IUDs) are a form of long-acting reversible contraception that release small amounts of progestin hormone into the uterus to prevent pregnancy. Release progestin, effective for 3-6 years.

- How to Use:

1. Visit a healthcare provider for insertion.
2. The IUD is effective for 3-6 years.
3. Regular check-ups are advised to ensure proper placement.

Copper IUDs

Copper intrauterine devices (IUDs) are a form of long-acting, non-hormonal contraception. They use copper to prevent pregnancy and are one of the most effective forms of birth control.

- How to Use:

1. Visit a healthcare provider for insertion.
2. The IUD is effective for up to 10 years.
3. Regular check-ups are advised to ensure proper placement.

4. Permanent Methods

Permanent methods involve surgical procedures to permanently prevent pregnancy.

Tubal Ligation

Tubal ligation, commonly referred to as "getting your tubes tied," is a permanent form of female sterilization used as a contraceptive method. It involves surgically closing or blocking the fallopian tubes to prevent eggs from reaching the uterus for fertilization.

- How to Use:

1. A surgical procedure performed by a healthcare provider.
2. The fallopian tubes are cut, tied, or blocked.
3. It is a one-time procedure with permanent results.

Vasectomy

A vasectomy is a surgical procedure for male sterilization, providing permanent contraception by cutting or blocking the vas deferens, the tubes that carry sperm from the testicles to the urethra. This prevents sperm from being ejaculated during sexual intercourse.

- How to Use:

1. A surgical procedure performed by a healthcare provider.
2. The vas deferens are cut or sealed.
3. It is a one-time procedure with permanent results.

Pregnancy Diagnosis Tests

Pregnancy diagnosis tests detect the presence of human chorionic gonadotropin (hCG) in urine or blood.

1. Home Pregnancy Tests

Home pregnancy tests are easy-to-use kits available over the counter.

How to Use:

1. Check the expiration date and read the instructions.
2. Collect urine in a clean container or directly apply to the test strip.
3. For strip tests, dip the strip into the urine sample for the time specified.
4. For midstream tests, hold the absorbent tip in the urine stream for the time specified.
5. For digital tests, follow the specific instructions provided.
6. Wait for the recommended time (usually a few minutes) for the results.

7. Interpret the results according to the instructions (e.g., one line for negative, two lines for positive).

2. Clinical Pregnancy Tests

Clinical pregnancy tests are conducted by healthcare providers and include urine and blood tests.

Urine Tests

- How to Use:

1. Provide a urine sample at a healthcare facility.
2. The sample is tested for hCG levels.
3. Results are typically available within a few minutes to an hour.

Blood Tests

- How to Use:

1. A healthcare provider draws a blood sample.
2. The sample is sent to a lab for analysis.
3. Results are usually available within a few hours to a few days.
4. Blood tests can detect pregnancy earlier than urine tests and provide quantitative hCG levels.

Sample data table:

Device/Test Type	Method	Typical Use Effectiveness	Advantages	Limitations
Male Condoms	Barrier	85%	STI protection, no prescription	Must be used every time
Female Condoms	Barrier	79%	STI protection, female control	Must be used every time
Oral Contraceptives	Hormonal	91%	Highly effective, regulates cycle	Daily use, side effects

Contraceptive Patch	Hormonal	91%	Weekly application	Skin reactions, side effects
Vaginal Ring	Hormonal	91%	Monthly insertion	Potential discomfort
Injectable Contraceptives	Hormonal	94%	Long-lasting	Regular injections, side effects
Implants	Hormonal	>99%	Long-term protection	Insertion required, side effects
Hormonal IUD	Intrauterine	>99%	Long-term, minimal maintenance	Insertion required
Copper IUD	Intrauterine	>99%	Long-term, hormone-free	Insertion required, heavy periods
Tubal Ligation	Permanent	>99%	Permanent solution	Irreversible, surgical risks
Vasectomy	Permanent	>99%	Permanent solution	Irreversible, surgical risks
Home Pregnancy Tests	Diagnostic	99%	Convenient, private	Possible false negatives
Clinical Urine Tests	Diagnostic	99%	Accurate, professional oversight	Requires clinic visit
Clinical Blood Tests	Diagnostic	>99%	Early detection, precise	Requires clinic visit, longer wait