

FAMILY PLANNING

ROLE OF PHARMACIST IN FAMILY PLANNING

Family planning is often used as a synonym for birth control and usually applied to the circumstance of couples who wish to space between the children they want to have.

Family planning is a technique that delays the pregnancy rather than preventing the pregnancy entirely.

WHO defines 'family planning as a way of living and thinking that is adopted voluntarily upon the basis of knowledge, attitudes and responsible decisions of individuals and couples in order to promote the health and welfare of the family group and thus contributes effectively to the social development of a country.

WHO has appreciated the role of pharmacists in educating the patients' about advantages of family planning and useful techniques the couple can adopt suiting to their family conditions.

OBJECTIVES OF FAMILY PLANNING

1. To avoid unwanted births
2. To bring about wanted births
3. To regulate intervals between the pregnancies
4. To determine the number of children in the family
5. To control pregnancies in relation to the age of the parent
6. To prevent the frequent pregnancies induced stress on the physical and psychological health of the mother.

ROLE OF PHARMACIST IN FAMILY PLANNING

The pharmacist serves as an important link between the public and healthcare providers. Therefore, pharmacists often encounter individuals with diverse beliefs and misconceptions about family planning. Illiterate or less-educated populations may not be aware of the benefits and convenience of family planning methods. Many people also have psychological fears that sterilization is painful,

dangerous, or harmful to health. The pharmacist plays a vital role in dispelling these fears and promoting awareness.

1. Health Education:

Displays posters and distributes pamphlets to create awareness about family planning and small family norms.

2. Public Awareness Programs:

Conducts health education campaigns and highlights the consequences of overpopulation.

3. Patient Counseling:

Advises individuals and couples on the importance of family planning and spacing between children.

4. Addressing Myths:

Provides counseling to remove misconceptions, fears, and cultural barriers related to contraception.

5. Contraceptive Guidance:

Helps in selecting appropriate contraceptive methods based on patient needs and health status.

6. Drug Information:

Explains the use, benefits, and side effects of oral contraceptives and other methods.

7. Promotion of Barrier Methods:

Encourages use of condoms for dual protection (pregnancy prevention + STDs).

8. Dispensing Role:

Ensures proper dispensing and storage of contraceptive products and improves accessibility.

9. Emergency Contraception:

Provides timely guidance and access to emergency contraceptive methods.

10. Referral Services:

Refers patients to doctors or family planning clinics for procedures like IUD insertion or sterilization.

11. Public Health Participation:

Participates in national family planning programs and promotes reproductive health awareness.

12. Monitoring & Safety:

Monitors adverse effects of contraceptives and stays updated with latest guidelines.

CONTRACEPTIVE METHODS

An ideal contraceptive method should be safe, effective, acceptable, easy to use, and economical.

CLASSIFICATION OF CONTRACEPTIVE METHODS

A. Temporary Methods (Spacing Methods)

1. Barrier Methods

1. Physical Methods

- a. Male condom
- b. Diaphragm
- c. Vaginal sponge

2. Chemical Methods (Spermicides)

- a. Foams
- b. Creams
- c. Pastes
- d. Jellies
- e. Suppositories
- f. Soluble films

3. Combined Methods

- a. Physical + Chemical methods

2. Intrauterine Devices (IUDs)

1. First-Generation (Non-medicated)

- a. Lippes Loop
- b. Loops, spirals, coils, rings

2. Second-Generation (Copper-containing)

- a. Copper-T 200
- b. Copper-7
- c. Nova-T
- d. Multiload

3. Third-Generation (Hormone-releasing)

- a. Progestasert

3. Hormonal Contraceptives

1. Combined oral contraceptive pills (COCs)
2. Progesterone-only pills (POPs)
3. Postcoital (emergency) pills
4. Once-a-month pills
5. Male pills
6. **Depot formulations**
 - a. Injectable contraceptives (DMPA, NET-EN)
 - b. Subdermal implants (Norplant)
7. Vaginal rings

4. Post-Conceptional Methods

1. Menstrual regulation
2. Menstrual induction

5. Miscellaneous Methods

1. Behavioral Methods

- a. Abstinence
- b. Coitus interruptus (withdrawal method)
- c. Safe period method

2. Natural Methods

- a. Basal body temperature method
- b. Cervical mucus method

B. Permanent Methods (Sterilization)

1. Male Sterilization

- a. Vasectomy

2. Female Sterilization

- a. Tubectomy
 - i. Laparoscopy
 - ii. Mini-laparotomy

TEMPORARY METHODS

1. Barrier Methods

Barrier methods are available for both males and females. Their mechanism of action is to prevent the union of sperm and ovum, either mechanically or chemically.

Physical Methods: These include condoms, diaphragms, and vaginal sponges.

1. **Male Condom :** A male condom is a contraceptive device made of latex. Some condoms are coated with a lubricant or spermicide. They are available in different sizes, shapes, colors, and textures. The condom is worn over the erect penis.

Precautions

1. Ensure it is free from tears and leaks

Advantages

1. Inexpensive
2. Safe
3. Easy to use and reliable
4. Provides protection against STDs and AIDS

2. Discard after single use

5. No systemic side effects
6. Lightweight, compact, and easily disposable
7. Can be used by men of all age

Disadvantages

1. Latex or lubricants may cause allergic reactions in some individuals
2. Incorrect use may lead to slipping or tearing during intercourse
3. Some men feel it reduces sexual pleasure

Diaphragm

A diaphragm is a vaginal barrier device made of synthetic rubber or plastic with a flexible spring ring. It is inserted into the vagina before intercourse.

Precautions

1. Must remain in place for at least 6 hours after intercourse

Advantages

1. No systemic risks
2. No major medical contraindications

Disadvantages

1. Requires initial guidance from a trained person for proper insertion
2. Privacy is needed for insertion
3. Prolonged use may lead to toxic shock syndrome

Vaginal Sponge

It is a small polyurethane sponge saturated with a spermicidal agent (e.g., nonoxynol-9). It is inserted into the vagina just before intercourse.

Disadvantages

Less effective compared to the diaphragm

Chemical Methods: These methods use spermicidal agents, available as:

1. Foams
2. Creams, pastes, and jellies
3. Suppositories
4. Soluble film

Mechanism of Action: These preparations contain surface-active agents that attach to spermatozoa, inhibit oxygen uptake, and destroy the sperms.

Advantages

1. Safe
2. Woman-controlled methods
3. Provide some protection against sexually transmitted diseases

Disadvantages

1. Higher failure rate when used alone
2. May cause mild irritation, burning, or discomfort
3. Must be used immediately before intercourse

Combined Methods: Physical and chemical methods, when used alone, may have higher failure rates. Therefore, they can be used together as combined methods to improve effectiveness.

2. Intrauterine Devices (IUDs): An intrauterine device (IUD) is usually a small, flexible plastic frame that is inserted into the uterus to prevent pregnancy.

Types of IUDs

1. First-Generation IUDs: These are non-medicated (inert) devices made of polyethylene. They are available in various sizes and shapes such as loops, spirals, coils, and rings.

The Lippes Loop is a commonly used device, which is S-shaped.

Advantages

1. Simple and easy to insert
2. Economical
3. Reversible method
4. Does not interfere with sexual pleasure

Disadvantages

1. Requires a trained person for insertion
2. Needs regular follow-up
3. Requires periodic replacement
4. Rarely, it may be associated with complications such as uterine irritation

2. Second-Generation IUDs

These are copper-containing devices.

Older devices include Copper-7 and Copper-T 200, while newer ones include Nova-T and Multiload devices.

Advantages

1. Lower expulsion rate

2. Reduced incidence of side effects such as pain and bleeding
3. Easier to insert, even in nulliparous women
4. Increased contraceptive efficacy due to the presence of copper

3. Third-Generation IUDs

These are hormone-releasing devices.

The commonly used device is Progestasert, which is a T-shaped device containing progesterone. It releases approximately 65 micrograms of hormone per day into the uterus.

Mechanism of Action

1. Thickens cervical mucus
2. Inhibits endometrial growth
3. Prevents fertilization and implantation

3. Hormonal Contraceptives

Hormonal contraceptives are among the most effective spacing methods of contraception. They can be administered orally, as injections, implants, or vaginal devices.

Combined oral contraceptives (COCs) contain two hormones similar to those naturally present in a woman's body: estrogen and progestin. Some contraceptives contain both hormones, while others contain progestin only. These are commonly referred to as combined pills, oral contraceptives (OCs), or birth control pills.

Mechanism of Action

Inhibit ovulation (prevent release of the ovum)

Thicken cervical mucus, making sperm penetration difficult

Do not disrupt an existing p

Classification of Hormonal Contraceptives

1. Combined oral contraceptive pills
2. Progesterone-only pills
3. Postcoital (emergency) pills
4. Once-a-month pills
5. Male pills
6. Depot formulations
7. Injectable contraceptives
8. Subdermal implants
9. Vaginal rings

(a) Combined Oral Contraceptive (COC) Pills

These contain 30–35 mcg of synthetic estrogen and 0.1–1 mg of progesterone. One pill is taken daily for 21 days, starting from the 5th day of the menstrual cycle.

Not recommended for breastfeeding women, as they may reduce the quality and quantity of breast milk.

Examples: Mala-N, Mala-D

Risks and Precautions

- | | |
|--|-------------------------------|
| 1. Long-term use may increase the risk of: | 5. Higher risk in: |
| 2. Stroke | 6. Women >35 years |
| 3. Deep vein thrombosis (DVT) | 7. Smokers |
| 4. Myocardial infarction | 8. Patients with hypertension |

(b) Progesterone-Only Pills (POPs)

These contain small amounts of progestin only and no estrogen. They are also called mini-pills.

Features

- | | |
|---|--|
| 1. Contain lower hormone doses compared to COCs | 3. Do not interfere with milk production |
| 2. Suitable for breastfeeding women | 4. Do not disrupt an existing pregnancy |

(c) Emergency (Postcoital) Pills

These are used after unprotected intercourse to prevent pregnancy and are also called “morning-after pills.”

Mechanism

Primarily inhibit ovulation

May also prevent fertilization

Two doses are taken 12 hours apart

Effectiveness

Prevent approximately 75% of expected pregnancies

Dosage (classical regimen) Taken within 72 hours of unprotected sex

(d) Once-a-Month Pills: These contain a long-acting estrogen combined with a short-acting progesterone, taken once monthly.

(e) Male Pill: Contains gossypol, a derivative of cottonseed oil.

Acts by reducing sperm production and count

Adverse Effects of Oral Contraceptives

- | | |
|---|------------------------|
| 1. Myocardial infarction | 5. Hypertension |
| 2. Thromboembolic events | 6. Jaundice |
| 3. Breast cancer (risk association context-dependent) | 7. Weight gain |
| 4. Hyperglycemia | 8. Nausea and vomiting |

Advantages

1. Easy oral administration
2. Highly effective (near 100% with correct use)

Disadvantages

1. May reduce breast milk
2. Associated with side effects and contraindications
3. Delay in return to fertility in some cases

Depot Formulations

(a) Injectable Contraceptives

Drugs used: DMPA (Depot Medroxyprogesterone Acetate), NET-EN (Norethisterone Enanthate)

Administered once every 3 months

Mechanism

Inhibits ovulation

Thickens cervical mucus

Does not affect existing pregnancy

Advantages

1. Highly effective
2. Long-acting (3 months per dose)
3. No estrogen-related side effects
4. Does not interfere with sexual activity

2. Headache, breast tenderness, mood changes
3. Nausea and hair loss in some women
4. No protection against STDs/HIV

Disadvantages

1. Weight gain

Contraindications

1. Breast or genital cancer
2. Unexplained vaginal bleeding

(b) Subdermal Implants

Example: Norplant (contains levonorgestrel)
Implanted under the skin of the upper arm
Provides contraception for up to 5 years

Mechanism

Thickens cervical mucus
Suppresses ovulation (partially over time)

Disadvantages

Irregular menstrual bleeding
Requires minor surgical procedure for insertion and removal

(c) Vaginal Rings

1. Contain hormones (e.g., levonorgestrel)
2. Hormones are absorbed through the vaginal mucosa
3. Bypass the digestive system and liver
4. Effective at lower doses
5. Post-Conceptional Methods
6. Menstrual regulation
7. Menstrual induction

Miscellaneous Methods

(a) Behavioral Methods

1. Abstinence
2. Coitus interruptus (withdrawal method)
3. Safe period method (avoid intercourse during days 9–14)

(b) Natural Methods

1. Basal body temperature method
2. Cervical mucus method

PERMANENT METHODS (STERILIZATION)

Sterilization is a permanent method of contraception for both males and females.

Advantages

1. One-time procedure
2. No need for ongoing motivation
3. Cost-effective
4. Low complication rate when performed properly

Male Sterilization (Vasectomy): A safe, simple, and quick surgical procedure for permanent contraception in men.

Procedure

1. A small segment (~1 cm) of the vas deferens is removed
2. Ends are ligated and sealed

Complications

1. Hematoma and infection
2. Sperm granuloma
3. Rare spontaneous recanalization
4. Psychological concerns (rare)

Female Sterilization (Tubectomy): A permanent contraceptive method for women, usually performed under local anesthesia.

Methods

1. Laparoscopy

Performed using a laparoscope

Fallopian tubes are occluded using rings

Advantages

1. Short operation time
2. Short hospital stay

3. Minimal scarring

2. Mini-Laparotomy

Small abdominal incision

Simple, safe, and effective procedure

Fewer complication