

# FAMILY PLANNING

## ABSTRACT

## Author

Family planning is crucial for improving individual and public health, as well as contributing to broader societal and economic development. Easy access to contraceptives helps to prevent unintended pregnancies & prevent negative health outcomes. Family planning essential for enhancing the quality of life, promoting sustainable development, and ensuring the health and well-being of individuals and communities worldwide. This chapter explores the objectives, WHO recommendations and importance of different contraceptive methods.

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## I. INTRODUCTION

Family planning is the practice of controlling the number and spacing of children through the use of contraception, education, and informed choices about reproductive health. Family planning remains an important aspect of practice of medicine. It is important in improving the health and well-being of families and communities. World Health Organization (WHO) defines family planning as the ability of individuals and couples to anticipate and achieve their desired number of children and the spacing and timing of their births. This includes contraception and treatment of involuntary infertility. Family planning enhances better maternal and child health and, in general, the well-being of society. This article serves as an overview of the currently available strategies, contraceptives choices to prevent pregnancies and the risks and benefits associated with their use.

## II. HISTORICAL BACKGROUND

1. In 1909, Richard Richter discovered IUDs.
2. In 1914, **Margaret Sanger** coined the term "birth control".
3. In 1952, India was the first country in the world to launch a National Programme for Family Planning.
4. **In 1960**, First oral contraceptive, Enovid was approved by the FDA.
5. **In 1969**, United Nations established the United Nations Fund for Population Activities (UNFPA) to promote global family planning efforts.
6. In 1986, **Dr. Nitya Anand** discovered India's first oral contraceptive pill "Saheli".
7. In 1994, ICPD Cairo conference for reproductive rights and women's health
8. In 2012, London summit on family planning pledges to provide contraceptives to 120 million women.



Dr. Nitya Anandan an Indian medicinal chemist, Director of Central Drug Research Institute in Lucknow



Margaret Sanger Slee  
American birth control activist,  
Sex educator, Writer

## Objectives of Family Planning

- 1. Prevent Unintended Pregnancies:** The avoidance of unwanted pregnancies is the most important concern in family planning and public health. Unintended pregnancy ranks as a leading cause of adverse health, economic, and social consequences for individuals, families, and communities.
- 2. Ensure Spacing between Births (at least 3 years):** Spacing between births, ideally at least **three years**, is crucial for maternal and child health. This practice allows the mother's body to recover physically and emotionally from recent childbirth.
- 3. Empower Individuals and Couples:** Allow people to decide the size of their family and the timing of pregnancies.
- 4. Reduce Maternal and Infant Mortality**
- 5. Promote Economic Stability**

## WHO Recommendations for Family Planning

Category	Description
Contraceptive choice	Promotion of contraceptive methods including barrier, hormonal, and intrauterine devices
Adolescents' needs	Meet the particular needs of adolescents with youth-

	friendly services
Infertility Treatment	Ensure the availability of treatments for couples facing infertility
Counseling services	Provide evidence-based counseling that caters to the needs and preferences of individuals
Training	Train non-physician healthcare workers to provide basic contraceptive services in underserved areas

### Strategies to Prevent Unintended Pregnancies

Strategy	Description
Sex Education	Provide age-appropriate, evidence-based education on reproductive health and contraception
Healthcare provider training	Empower health-care providers with the skills to be able to provide counseling and support for contraceptive choice
Community Outreach Programs	Engage communities in awareness-raising and reduction of stigma associated with contraception
Contraceptives accessing	Ensure access to a full range of contraceptive methods, including long-acting ones
Emergency Contraception	Provide access to emergency contraception pills/devices for protection after unprotected sex
Postpartum and post-abortion care	Integrate family planning with postpartum and with post-abortion care to space the births
Exclusive breastfeeding	Encourage the lactational amenorrhea method (LAM), which delays ovulation for up to six months

These strategies need to be implemented in coordination with healthcare providers, community organizations, and governments. Successful birth spacing requires accessible and affordable contraceptives. [1,2,3,4]

### Contraceptive Methods

Contraceptive methods are those techniques, devices or medications used to avoid pregnancy. They provide a potential for individual or couples' choice regarding family planning, thus helping families achieve wanted birth spacing and family size. Contraceptives also reduce maternal and child mortality and morbidity, unintended pregnancies, and advance gender equality. [1,5]

## Historical Background

The concept of birth control has been practiced for centuries, with people employing creative and resourceful methods to prevent pregnancy. Ancient texts as early as 1850 BCE outlined methods using such substances as crocodile dung, gum, honey, fermented dough and acacia most of which probably acted by providing adverse environment for the sperm. In second-century, a mixture of acidic fruits, nuts, and wool was applied to the cervix, functioning as an early form of spermicidal barrier. Since then, contraception has developed much, and with this, a great variety of different contemporary methods appeared which differ in mechanism, efficiency, and availability. [6]

## Methods of Family Planning

### 1. Temporary Methods

Temporary methods of contraception are methods that can be used by individuals to prevent conception for certain periods of time and can be reversed later in life to conceive, if so desired. Each method has its list of pros and cons, with varying degrees of effectiveness. A method should be chosen that best fits the personal health, lifestyle, and goals regarding family planning. The different methods of family planning include:

#### a) Barrier Method

**Condoms (Male and Female):** Condoms are most used and effective contraceptive method available for reducing risk of sexually transmitted diseases (HIV, Syphilis, Hepatitis B etc) and providing protection against unintended pregnancy. Condoms are inexpensive & made of latex, polyurethane or synthetic elastomers. A male condom fits over the penis, and a female condom fits into the vagina. 'Nirodh', 'KamaSutra', 'Extra time', 'Man force' etc are the common brand name of condoms in India. [7]

**Diaphragm and Cervical Cap:** Cervical cap and diaphragm are soft, dome shaped device that cover cervix and serve as physical barrier to sperm. Different types of cervical caps are available in market which includes: Dumas or vault cap, FemCap, Vimule cap etc. These are made up of latex, silicon and silicone elastomers. Cervical caps are worn for 6 to 8 hours after sexual intercourse and 2 to 3 days after insertion. [8]

## b) Hormonal Method

Hormonal contraceptives work by altering a woman's hormonal cycle to prevent ovulation. Different types of hormonal methods include -

- **Oral Contraceptives:** Oral contraceptives are the pills that contain synthetic estrogen and/or progesterone. Estrogen control menstrual bleeding while progesterone inhibits follicular development and prevent ovulation. The usual oral contraceptives are combined form of different estrogen& progestin components.

**Table 1:** Components of Hormonal Contraceptives

Hormonal Form	Components
Estrogen	Estetrol, Estradiol, Ethinylestradiol
1 <sup>st</sup> generation Progestin	Ethynodioldiacetate, Lynestrenol, Norethindrone acetate
2 <sup>nd</sup> generation Progestin	Levonorgestrel, dl-norgestrel
3 <sup>rd</sup> generation Progestin	Gestodene, Norgestimate

Oral contraceptives are commonly use to avoid pregnancy but these are also use for non-contraceptive reasons including menstrual related disorders such as irregular menstruation, fibroids as well as menstrual pains. [9]

- **IUDs:** IUDs are intrauterine devices inserted by expert doctors or health care professionals in uterine cavity through vagina. Different types of IUDs are available in the world which includes copper releasing IUDs, hormonal and non-hormonal IUDs. [10-14]

**Table 2:** Different Types of IUDs

Type of IUD	Material	Hormonal/Non-Hormonal	Duration of Use	Mechanism of Action	Examples
Copper IUD	Copper	Non-Hormonal	Up to 10 years	Releases copper ions that are toxic to sperm, preventing fertilizatio.	ParaGard
Levonorgestrel IUD	Plastic with levonorgestrel	Hormonal	3–7 years	Releases progestin, thickens cervical mucus, and	Mirena, Skyla, Kyleena, Liletta

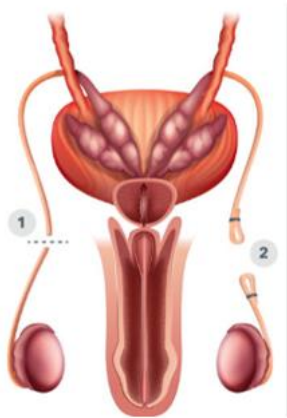
				suppresses endometrial growth.	
Frameless IUD	Copper or hormonal	Hormonal or non-hormonal	5–10 years	Functions similarly to copper or hormonal IUDs, but uses a frameless design for a better fit.	GyneFix
Dual-purpose IUD	Plastic with drugs or ions	Hormonal and non-hormonal	Varies	Combines copper and hormone release for dual action against sperm.	Under development

- c) **Spermicides:** Spermicides are contraceptive substances that destroys sperm or immobilizes them to preventing fertilization. These are also applied on diaphragm and Cervical Cap during coitus. These are available in the form of gels, creams and foams.

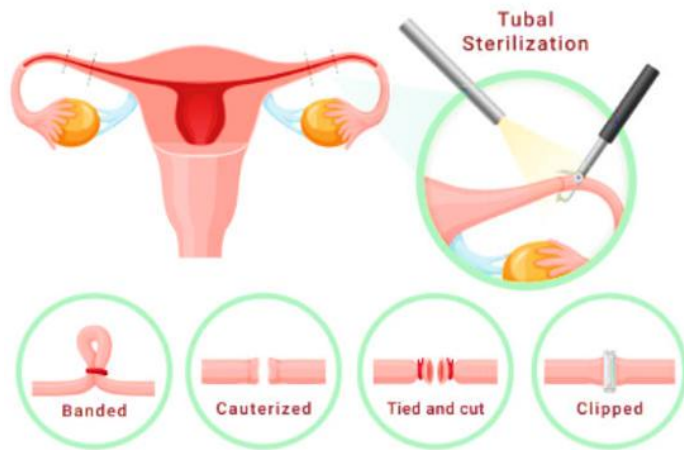
Examples: Nonoxynol-9 (N-9, Benzalkonium chloride and menfegol [14]

- d) **Withdrawal Method:** This is also known as coitus interruptus. In this method pf contraception, the penis is withdrawn from the vagina before ejaculation to prevent sperm from entering the reproductive tract.

- **Permanent Methods:** Permanent contraceptive methods are surgical methods, commonly used as an option for those women who desire never to become pregnant. This includes blocking of gamete (sperm or ova) transport for conception by surgical interventions.
  - **Vasectomy:** Vasectomy is male sterilisation method in which a small part of vas deferens is removed or tied through small incision on scrotum.
  - **Tubectomy:** Tubectomy is female sterilisation method in which small part of fallopian tube is cut or tied through small incision on abdomen or through vagina. [15,16]



**Figure 50: Vasectomy**



**Figure 51: Tubectomy**

## Infertility

According to WHO infertility is a disorder related to reproductive system. Infertility is characterized by inability to conceive pregnancy after 1 year (12 months) of regular unprotected sexual intercourse. Infertility can affect both male and female.

## Causes of Infertility

### In Males

- Low sperm count & poor sperm quality (Abnormal morphology & low motility)
- Ejaculation Issues: Blockages in the reproductive tract
- Certain medical conditions included infection in genital organs and testicular injury
- Hormonal imbalance

### In Females

- Ovulatory disorders such as polycystic ovary syndrome (PCOS)
- Uterus related issues: Endometriosis, fibroids, polyps in uterus etc
- Blockage in fallopian tube due to inflammation
- Age of the female partner and the disease-related infertility



### Factors Related to Spontaneous Fertility of Couples

- Time of unwanted non conception
- Age related fertility decline
- Disorders related to infertility

**Time of Unwanted Non Conception:** The duration of unsuccessful attempts to conceive plays a significant role in determining the severity of subfertility. Most of the pregnancies (about 80%) conceive in first 6 cycle of coitus in fertile period. Couples who are unable to conceive after 12 unsuccessful cycles are classified as infertile.

**Age Related Fertility Decline:** In European culture, the median maternal age for a first pregnancy is around 30 years, with many women having their first pregnancy at 35 or older. The problem begins with late pregnancy is that the fertility starts to decline at age 25 to 30. The median age for giving birth to the last child is approximately 40 years.

**Disorders Related to Infertility:** The common disorders associated with infertility for both genders are hypogonadotrophic hypogonadism, hyperprolactinemia, disorders of ciliary function, cystic fibrosis, infections, systemic diseases and lifestyle related disorders. [17, 18]

### III. CONCLUSION

Family planning is a fundamental aspect of public health and human rights. By investing in family planning programs, societies can create healthier, more prosperous communities and ensure a better future for generations to come.

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