بسم الله الرحمن الرحيم

Family Planning
II

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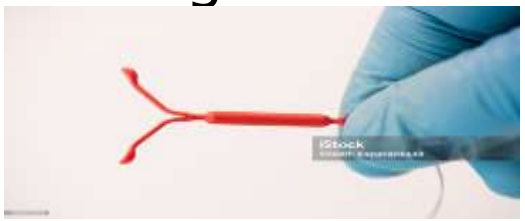
Side-effects and Complications of IUDs

1.Bleeding; The commonest complaint ,accounts as 10-20 %of all IUD removals. Where, greater blood loss during *menstruation, longer menstrual periods or mid-cycle bleeding*



If the bleeding is heavy or persistent the IUD should be removed. change of IUD

2.Pain:is second major side-effect leading to IUD removal. WHO estimates that 15-40 %of IUD removals due to pain only, **as:** ***low backache, cramps in the lower abdomen and occasionally pain down the thighs***. **Severe pain** can also indicate a uterine perforation (

3. **Pelvic infection** (PID): that includes **acute, sub acute and chronic** conditions of the ***ovaries, tubes, uterus, connective tissue and pelvic peritoneum*** and is usually the **result of infection.**

5. Pregnancy Considering: An actual use failure rate in the first year is approximately 3% About 50%of uterine pregnancies occurring with the device in situ end in a spontaneous abortion

CONT. ..Side-effects and Complications of IUDs

6. Ectopic pregnancy: The ectopic pregnancy rate is about 0.2 /1000 women year in IUD as compared to non contraceptive users,

7. Expulsion: Expulsion rates vary between 12-20 % Expulsion can be partial or complete.

8. Fertility: Fertility impairment does not seem .Over 70 % of previous IUD users conceive within one year of stopping use

9. Cancer and teratogenesis

There is no evidence to date that IUD use increases cancer risks. Nor offspring developmental abnormality or congenital malformations among the users of IUDs

10. Mortality: Mortality associated with IUD use **is extremely rare**

Hormonal Contraceptives

- Hormonal contraceptives are the **most effective** spacing methods of contraception when properly used
- **Oral contraceptives of the combined type are almost 100%effective in preventing pregnancy**.

More than 65 million in the world are taking the "pill".

a. Synthetic oestrogens : Two synthetic oestrogens are used in oral contraceptives. These are:

ethinyl- oestradiol and mestranol. Both are effective.

b. Synthetic progestogens: These are classified into three groups - pregnanes, oestranes and gonanes.

Classification Hormonal contraceptives currently in use and/or under study may be classified as follows

A. Oral pills

1. Combined pill
2. Progestogen only pill (POP)
3. Post-coital pill
4. Once-a-month(long-acting) pill
5. Male pill

B. Depot (**slow release**}
formulations

1. Injectable
2. Subcutaneous implants
3. Vaginal rings

A. Oral Pills

1. **Combined pill** 1960

It is one of the major spacing methods of contraception. **contained 100-200 mcg of a synthetic oestrogen and 10 mg of a progestogen.. At the present time, most of the combined pill contain no more than 30-35 mcg of a synthetic oestrogen, and 0.5 to 1.0 mg of a progestogen. (minimum effective dose of the progestogen in the pill) which will produce the least metabolic disturbances.**

The pill is given orally for 21 consecutive days beginning on the 5th day of the menstrual cycle (pill should be taken everyday at a fixed time, preferably before going to bed at night) followed by a break of 7 days during which period menstruation occurs.

If bleeding does not occur, the woman is instructed to start the second cycle one week after the preceding one.

A. Oral pills
1. Combined pill
2. Progestogen only pill (POP)
3. Post-coital pill
4.Once-a-month(long-acting) pill
5. Male pill

2. Progestogen-only pill (POP)

This pill is commonly referred to as "minipill" or "micropill". It contains only progestogen, which is given in **small doses** throughout the cycle**.** They could be prescribed to older women for whom the combined pill is contraindicated because of cardiovascular risks. They may also be considered in young women with risk factors for neoplasia

3. Post-coital contraception

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Post-coital (or "morning after") **recommended within 72 hours of intercourse**.

A. Oral pills
1. Combined pill
2. Progestogen only pill (POP)
3. Post-coital pill
4.Once-a-month(long-acting) pill
5. Male pill

Two methods are available:

contraception is an unprotected

(a) IUD : The simplest technique is to insert an IUD, if acceptable, especially **a copper device** within 5 days.

(b) Hormonal : More often a hormonal method may be preferable. Levonorgestrel 0. 75 mg **within 72 hours** of unprotected sex and the 2nd tablet after 12 hours of 1st dose. or **Two oral contraceptive pills containing 50 mcg of ethinyl estradiol within 72 hours after intercourse, and the same dose after 12 hours.** Or

Four oral contraceptive pills containing 30 or 35 mcg of ethinyl estradiol within 72 hours and 4 tablets after 12 hours

A. Oral pills
1. Combined pill
2. Progestogen only pill (POP)
3. Post-coital pill
4.Once-a-month(long-acting) pill
5. Male pill

4. Male pill

The search for a male contraceptive began in 1950

Research is following 4 main lines of approach :

(a) preventing spermatogenesis

(b) interfering with sperm storage and maturation

(c) preventing sperm transport in the vas, and

{d) affecting constituents of the seminal fluid.

Most of the research is concentrated on interference with spermatogenesis

An ideal male contraceptive would decrease sperm count while leaving testosterone at normal levels.

But **hormones that suppress sperm production tend to lower testosterone and affect potency and libido.**

At present it does not seem that this method be widely used as a male contraceptive

2. Progestogen only pill
3. Post-coital pill
4.Once-a-month(long-a
5. Male pill

5. Once-a-month (long-acting) pill

Experiments with once-a-month oral pill in which quinestrol, a long-acting oestrogen is given in **combination** with a short-acting progestogen, have been disappointing

- The **pregnancy rate is too high to be acceptable**.
- In addition, bleeding tends to be irregular

Mode Of Action Of Oral Pills

The mechanism of action of the combined oral pill is to

- **prevent the release of the ovum from the ovary** through
- **blocking the pituitary secretion of gonadotropin** that is necessary for ovulation to occur.
- **Progestogen-only pill render the cervical mucus thick and scanty and thereby inhibit sperm penetration.**
- **Also inhibit tubal motility and delay the transport of the sperm and of the ovum to the uterine cavity**

Effectiveness

Effectiveness

- **the combined type of oral contraceptives are almost 100% effective in preventing pregnancy if women take regularly, so the actual rate is lower.**

the effectiveness of Progestogen-only pills is almost as good as that of the combination products.

Risks and Benefits

The **oral contraceptives had some adverse effects principally on the cardiovascular system** (e.g., myocardial infarction, deep vein thrombosis, etc.**) and that these effects were associated with the oestrogen component of the pill. This led to a reduction of the oestrogen content of the pill until the current 30-35 mcg oral pills were developed.**

a. Adverse effects

1. **Cardiovascular effects:**
2. **Metabolic effects:**
3. **Carcinogenesis:**
4. **Other adverse effects**
5. **Common unwanted effects**

1. **Cardiovascular effects: There is evidence that the use of the combined pill was associated with an excess mortality.** Women **who had used the pill were 40% higher death rate than women who had never taken the pill.** all the excess mortality was due to cardiovascular causes,(myocardial infarction, cerebral thrombosis and venous thrombosis, with or without pulmonary embolus)

- The risk increased substantially with age and cigarette smoking

2. **Carcinogenesis**: WHO concluded that there was **no clear evidence of a relationship, either positive or negative between the use of combined pill and the risk of any form of cancer**.

3. **Metabolic effects:** included the **elevation of blood pressure**, the alteration in serum lipids with a particular **effect on decreasing high-density lipoproteins**, **modify carbohydrate metabolism** resultant **elevations of blood glucose and plasma insulin**

- These effects **are positively related to the dose** of the progestogen component

a. Adverse effects
1. Cardiovascular effects:
2. Metabolic effects:
3. Carcinogenesis:
4. Other adverse effects
5. Common unwanted effects

4. Other adverse effects

(i) Liver disorders : hepatocellular adenoma and **gall bladder** disease. **Cholestatic jaundi**ce can occur in some pill users.

(ii) Lactation : High amount of **oestrogen adversely affect the quantity and constituents** of breast milk and less **frequently cause premature cessation of lactation**.

(iii) Subsequent fertility: oral contraceptive usages followed by a **slight delay in conception**

iv) Ectopic pregnancies : These are more likely to occur in women taking progestogen-only pills, but not in those taking combined pills.

(v) Foetal development : Several reports have suggested that oral pills taken inadvertently during (or even just before) pregnancy might increase the incidence of birth defects of the foetus, but this is not yet substantiated

5. Common unwanted effects

(i) Breast tenderness: Breast tenderness, fullness and discomfort

(ii) Weight gain: About 25 %of users complain of weight gain. This is attributed to **water retention**, in which case **restriction of salt intake** is usually effective.

(iii)Headache and migraine: Migraine may be aggravated or triggered by the pill.

(iv) **Bleeding disturbances:** women may complain of break-through bleeding or spotting in the early cycles. Or not have a withdrawal bleeding

b. Beneficial effects

The single most significant benefit of the pill is its almost 100% effectiveness in preventing pregnancy and thereby removing anxiety about the risk of unplanned pregnancy.

Apart from this, the pill has a number of non contraceptive health benefits

Using the pill may give protection against at least 6 diseases: benign breast disorders including fibrocystic disease and fibroadenoma,

1. **ovarian cysts,**
2. **Iron deficiency anaemia,**
3. **pelvic inflammatory disease,**
4. **ectopic pregnancy and**
5. **ovarian cancer**

CONTRAINDICATIONS

(a)Absolute:

a. Cancer of the breast and genitals
b. liver disease
c. previous or present history of thromboembolism; cardiac abnormalities
d. congenital hyperlipidaemia
e. undiagnosed abnormal uterine bleeding.

b) Special problems

I. Age over 40 years;
II. smoking and age over 35 years;
III. mild hypertension;
IV. chronic renal disease;
V. epilepsy; migraine;
VI. nursing mothers in the first 6 months;
VII. diabetes mellitus;
VIII. gall bladder disease;
IX. history of infrequent bleeding, amenorrhoea, etc

DURATION OF USE

- The pill should be used primarily for spacing pregnancies in younger women.
- **Those over 35 years should go in for other forms of contraception.**
- **Beyond 40 years of age, the pill is not to be prescribed or continued because of the sharp increase in the risk of cardiovascular complications**

❑ **Medical supervision :annual medical examinations.**

An examination **before prescribing oral** pills is required

(a) to identify those with contraindications, and

(b) those with special problems that require medical intervention or supervision.

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1. Injectable Contraceptives

There are two types of injectable contraceptives

- Progestogen-only injectable and the newer
- once-a-month combined injectable.

A. Progestogen-only Injectables:

. The standard dose is an IM injection of **150 mg** **every 3 months**.

It gives protection from pregnancy **in 99 %** of women for at least 3 months. It effect on **suppression of ovulation**. also the endometrium and on the fallopian tubes and on the cervical mucus, all of which may play a role in reducing fertility..

B. Combined Injectable Contraceptives

- These injectable contain a **progestogen and an oestrogen**.
- Given at **monthly intervals**, **plus or minus three days**.
- **It 's act mainly** by suppression of ovulation.
- The cervical mucus is affected, mainly by progestogen, Changes in endometrium

2. Sub dermal implants : It is known as Norplant for long-term contraception.

- It consists of 6 silastic (silicone rubber) capsules containing 35 mg (each) of levonorgestrel (More recent devices
- **is 2 small rods**, Norplant (R)-2, which are comparatively easier to insert and remove. silastic capsules or rods are
- **implanted beneath the skin of the forearm**
- Or upper arm.

❖ **Effective** contraception is **provided for over 5 years.**

The contraceptive effect reversible on removal of capsules.

❖ The main disadvantages, however, appear to be irregularities of menstrual bleeding and surgical procedures necessary to insert and remove implants.

3. Vaginal rings; containing levonorgestrel the hormone is slowly absorbed through the vaginal mucosa, permitting most of it to bypass the digestive system and liver, The ring is worn in the vagina for 3 weeks of the cycle and removed for the fourth .

MISCELLANEOUS

1. Abstinence: الامتناع .

The only method of birth control which is completely effective is complete sexual abstinence. It is sound in theory; in practice, an oversimplification.. Therefore, **it can hardly** be considered as a method of contraception to be advocated to the masses.

2. Coitus interrupts

This is the **oldest method** of voluntary fertility control. It involves no cost or appliances. It continues to be a widely practiced method. **The male withdraws before ejaculation, and thereby tries to prevent deposition of semen into the vagina.**

Some couples are able to practice this method successfully, while others find it difficult to manage.

the **failure rate with this method may be as high as 25%**

3. Safe period (rhythm method)

Known as the "**calendar method**" The method is based on the **fact that ovulation occurs from 12 to 16 days** before the onset of menstruation The **days on which conception** is likely to **occur** Calculated as follows : The **shortest** cycle **minus** 18 days **gives the first day of the fertile period**. The **longest cycle** minus 10 days **gives the last day** of the fertile period. For example, if a woman's menstrual cycle varies from 26 to 31 days, **the fertile period during which she should not have intercourse** would be from the 8th day to the 21st day of the menstrual cycle, *counting day one as the first day of the menstrual period* .However, where such calculations are not possible, the couple can be ***advised to avoid intercourse from the 8th to the 22nd day*** of the menstrual cycle, counting from the first day of the menstrual period

The drawbacks of the calendar method are :

The drawbacks of the calendar method are :

(a)a woman's menstrual cycles are not always regular. If the cycles are irregular, it is **difficult to predict the safe period**

(b) it is only possible for this method to be used by educated and responsible couples with a high degree of motivation and cooperation

(c) compulsory abstinence of sexual intercourse for nearly one half of every month what may be called "programmed sex“

(d) this method is not applicable during the postnatal period,

(e) a high failure rate of 9% 100 woman-years

The failures are due to **wrong calculations**, inability to follow calculations, irregular use and "taking chances".

4. Natural family planning methods

The term "**natural family planning**" is applied to three methods:

(a)basal body temperature (BBT) method

(b) cervical mucus method, and

(c) Sympto thermic method.

The principle is the same as in the calendar method, but here the woman employs self-recognition of **certain physiological signs and symptoms associated with ovulation** as an aid to ascertain when the fertile period begins. So the **couples abstain from sexual intercourse during the fertile phase of the menstrual cycle**

(a) Basal body temperature method (BBT)

The BBT method depends upon **the rise of BBT at the time of ovulation**, as a result of an increase in the production of progesterone. **Temperature rise is very small, 0.3 to 0.5 degree**

The temperature is **measured preferably before getting out of bed in the morning**.

The **BBT method is reliable** if intercourse is restricted to the post-ovulatory infertile period, commencing يبدأ3 days after the ovulatory temperature rise and continuing up to the beginning of menstruation.

b) Cervical mucus method

This is also known as "billings method" or "ovulation method". This method is based on the observation **of changes in the characteristics of cervical mucus**.

At the time of ovulation, cervical mucus becomes watery clear resembling raw egg white, smooth, slippery and profuse.

After ovulation, under the influence of progesterone, **the mucus thickens** and **lessens in quantity**.

(c) Symptothermic method

This method combines the temperature, cervical mucus and calendar techniques for identifying the fertile period. If the woman cannot clearly interpret one sign, she can "double check" her interpretation with another. Therefore, this method is more effective than the "Billings method" ..

5. Breast Feeding

the t**raditional belief that lactation prolongs postpartum amenorrhea and provides some degree of protection against pregnancy .**

No more than 5-10 %of women conceive during lactational amenorrhea, and even this risk exists only during the month preceding the resumption استئنافof menstruation .However, once menstruation returns, continued lactation no longer offers any protection against pregnancy, by 6 months after childbirth, about 20-50%of women are menstruating and are in need of contraception

6. Birth control vaccine

Several immunological approaches for men and women are being investigated. The most advanced research involves immunization with a vaccine prepared from beta sub-unit of human chorionic gonadotropin (hCG), a hormone produced in early pregnancy. Immunization with hCG would block continuation of the pregnancy **Antibodies appeared in about 4-6 weeks and reached maximum after about 5 months and slowly declined reaching zero levels after a period ranging from 6-11 months. The immunity can be boosted by a second injection.**

Terminal Methods (Sterilization)

Voluntary sterilization is a well-established contraceptive procedure for couples desiring no more children.

Male sterilization

Male sterilization or vasectomy being a comparatively·

- **simple operation** can be performed even in primary health centres by trained **doctors under local anaesthesia**.
- When carried out under strict aseptic technique, **it should have no risk of mortali**ty. If properly performed**,**
- **vasectomies are almost 100 per cent effective**.

Complications: Very few complications that may arise:

(a) Operative : **pain, scrotal haematoma and local infection**.

(b) Sperm granules : Caused by accumulation of sperm,

(c} Spontaneous recanalization :

(e) Psychological :

(f) Causes of failure

Female sterilization

Female sterilization can be done as an interval procedure, postpartum or at the time of abortion.

Two procedures have become most common, namely

laparoscopy and mini laparotomy.

(a)Laparoscopy

through abdominal approach using a "**laparoscope".**

the Falope rings (or clips) are applied to **occlude the tubes**.

The short operating time, shorter stay in hospital and a small scar are some of the

Complications : Although complications are uncommon,

. **Puncture of large blood vessels**

(b) Minilap operation Mini laparotomy:

is a **modification of abdominal tubectomy. It is a much simpler procedure requmng a smaller abdominal incision of only 2.5 to 3 cm conducted under local anesthesia**.. **It has the advantage over other methods with regard to safety, efficiency and ease in dealing with complications**. Minilap operation is suitable **for postpartum tubal sterilization**

Element of success in family planning programme

The main strategy of FP programe is to offer to client easy access to a wide range of affordable contraceptive method through multiple service delivery channels in a good quality, reliable fashion. : **The key points are as follows:**

(1)Make services accessible : Offering services through a **variety of delivery points** makes methods available to more potential users;

(2) Make services affordable : Partnerships between public and private-sector services encourage **clients to pay what they can**, while public programes **serve the poor for free** or for low fees;

(3) Offer client-centered care : Planning and providing services with the clients in mind **help to make sure their needs** are met and their **preferences are honored**;

(**4) Rely on evidencebased technical guidance** : Up-to-date service delivery guidelines, tools, and job aids can help translate research findings into better practice;

(5) Communicate effectively

(5) Communicate effectively : Communication grounded in behaviour theory and sensitive to local norms motivates clients to seek services and helps them make good family planning choices;

(6) Assure contraceptive security : A **strong logistics** system and a **long-term plan** for contraceptive security ensure that a **variety of methods**, and the **supplies and equipment** to provide them, are **always available**;

(7) Work for supportive policies : Showing how family planning contributes to development goals makes the case for continued support for family planning programme;

(8) Coordinate : When governments, donor agencies, and implementing partners work together, they **streamline efforts** and **avoid duplication**;

(9) Build a high-performing staff : 

(9) Build a high-performing staff : Programe can keep workers motivated and on the job by creating a **good working environment**, **matching skills with tasks**, and **rewarding a job** well done;

(10) Secure adequate budget, use it well : **Spending wisely**, **doing more with less**, and finding ways to recover costs can help ensure financial sustainability;

(11) Base decisions on evidence: Research, monitoring, and evaluation yield important information to guide decision making, and they need not be expensive;

(12) Lead strongly, manage well : Strong leadership helps programmes navigate change. Good management solves operational problems; and

(**13) Integrate services appropriately:** Programmes can address a wider range of health needs by integrating services where appropriate and offering referrals where it is not.


Thank
you!