Reproductive health

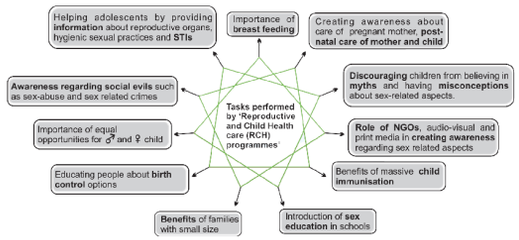
@anjit

1 INTRODUCTION

- **Definition**
  According to WHO, reproductive health means a total well being in all aspects of reproduction *i.e.* physical, emotional, social and behavioral.

2 REPRODUCTIVE HEALTH: PROBLEMS AND STRATEGIES

- India was amongst first countries in the world to initiate action plans to attain reproductive health such as **family planning programmes (FPP) in 1951**



3 POPULATION STABILISATION

- According to 2011 census, our population growth rate was **less than 2 percent *i.e* 20/1000/year**

Year	World Population	Indian Population
1900	2 billion	350 million
2000	6 billion	1 billion
2011	7.2 billion	1.2 billion

- **Reasons For Increase In Population Size:**
  - Decline in death rate
  - Rapid decline in maternal mortality rate (MMR)
  - Decrease in infant mortality rate (IMR)
  - Increase in number of people in reproducible age
  - Increase in health facilities
- **Measures Taken By Government To Check Population Growth Rate:**
  - Motivate smaller families by using various contraceptive methods with slogans **"Hum do Hamare do"**, advertisements and posters
  - Urban couples adopting : **"One child norm"**
  - Statutory raising of marriageable age:
    - Female to 18 years
    - Male to 21 years
  - Incentives given to couples with small families

4 BIRTH CONTROL/CONTRACEPTION

- **Features of an ideal contraceptive:**
  - User-friendly
  - Easily available
  - Effective
  - Reversible
  - No/least side-effects
  - No interference with libido or act of coitus
- **There are two principle methods of birth control:**
  - Natural methods
  - Artificial methods

5 NATURAL/TRADITIONAL METHODS

- Principle of avoiding physical meeting of the egg and sperms
- Chances of failure are high

Method	Mode of Action (MoA)
Periodic abstinence	: Couples abstain from coitus from day 10 to 17 of the menstrual cycle i.e. fertile period
Withdrawal method/ Coitus interrupts	: Insemination is avoided as the malepartner withdraws his penis from the vagina just prior to ejaculation
Lactation amenorrhea	: Absence of menstruation upto 6 months during period of intense lactation following parturition

6 ARTIFICIAL METHODS

The various methods of contraception are enlisted below:

I. Barrier methods
II. Spermicidal jellies
III. IUDs
IV. Oral pills
V. Injections and implants
VI. Emergency contraceptives
VII. Surgical methods

7 ARTIFICIAL METHODS

(I). Barrier methods

- Prevent ovum and sperm from physically meeting
- Self inserted and offer privacy to user

(a) Condoms & its types

Made up of rubber and thin latex

Parameter	Males	Females
• Region covered • Provides protection from STIs	• Penis • Yes	• Vagina and cervix • Yes


Male condom (Nirodh)


Female condom

(b) Diaphragms, cervical caps, vaults
- Rubber barriers that **cover** the **cervix** during coitus
- Reusable
- **Do not protect from STIs**
- Used by females only

(II). Spermicidal jellies, foams and creams

- Kill the sperms by creating acidic pH
- Used along with barrier methods to increase their efficiency

(III). Intra-uterine devices (IUDs)

- Inserted by doctors or expert nurses in uterus
- IUDs are one of the most widely accepted method of contraception in India.

Types

- Non medicated IUDs
  - **Example:** "Lippe's loop"
- Medicated IUDs

Parameter	Hormone releasing IUDs	Copper coated IUDs
• Examples	Progestasert, LNG-20	Cu7, Multiload 375
• Mode of Action	• Make the uterus unsuitable implantation and cervix hostile to the sperms.	• Increase phagocytosis of for sperms within uterus • Cu ions suppress sperm motility and fertilising capacity of sperms.


CuT

IV. Oral Contraceptive Pills (OCP) or tablets

Parameter	Non-steriodal	Steroidal
• Example or composition	**SAHELI**	Progestogens **(Prg)** alone or combination of Prg and Estrogens **(Est)**
• Mode of action	Interferes with implantation	Inhibit ovulation and implantation; also after the quality of cervical mucus to retard entry of sperms
• Dosage	**'Once a week' pill**	Pills have to be taken daily for a period of 21 days starting preferably within first 5 days of menstrual cycle
• Effectiveness	High contraceptive value with very few side effects	Pills are very effective with lesser side effects and well accepted by females

Saheli was developed at **CDRI**, Lucknow, Uttar Pradesh

V. Implants

- Placed under skin
- Effective periods are much longer
- **Composition:** Progestogens alone/Combination of Progestogens and Estrogens
- **Mode of Action (MoA)**
  - Inhibit ovulation and implantation
  - Alter the quality of cervical mucus to retard entry of sperms
- Injections usually share similar MoA and composition as implants

VI. Emergency contraceptives

Types	Characteristics
• Progestogens alone • Combination of Prg + Est • IUDs	• Effective with 72hrs of coitus • Used to prevent conception resulting from rape or unprotected intercourse

VII. Surgical/Sterilisation methods

- Poor reversibility but highly effective
- **Mode of action**

Blocks gamete transport

Types

Tubectomy	Vasectomy
• In females • Cut and tie **fallopian tubes** • Incision in abdomen or through vagina	• In males • Cut and tie **vas deferens** • Small incision on the scrotum

8 MEDICAL TERMINATION OF PREGNANCY (MTP)/INDUCED ABSORPTION

- **MTP :** Intentional or voluntary termination of pregnancy before full term
- MTP was legalised in India in **1971**
- **When can MTP be performed?**
  - Unwanted pregnancy due to rape, failure of contraception, casual unprotected intercourse
  - If continuation of pregnancy could harm the mother or foetus or both
  - **Permission of how many medical practitioners is needed for MTP depending on duration of gestation?**

1	2
less than/upto 12 weeks	More than 12 but less than 24 weeks

- **Intention behind MTP amendment act 2017, (GoI)**
  - Reducing the incidence of illegal abortion
  - Decrease consequent maternal mortality and morbidity
  - MTPs are **safe** upto 12 weeks but riskier in 2nd trimester yet both are **legal**
  - Amniocentesis and MTPs have been misused in context of **female foeticide**

9 AMNIOCENTESIS

- Analyse foetal cells and dissolved substances from amniotic fluids
- Technique used to check for genetic disorders such as Down's syndrome, hemophilia, sickle-cell anemia etc.
- **Statutory ban on this technique in India to prevent female foeticide.**

10 SEXUALLY TRANSMITTED INFECTIONS (STIs)

- **Alternately named:** Venereal diseases (VD) or reproductive tract infections (RTIs)
- **High vulnerability/risk group:** 15-24 years
- **Mode of transmission (MoT):** Sexual intercourse

Category	Disease
Bacterial	Gonorrhea, Syphilis, Chlamydiasis
Protozoan	Trichomoniasis
Viral	Genital herpes, Hepatitis-B, Genital warts, AIDS

- Bacterial and protozoan diseases are completely curable if detected early and treated properly
- **Other MoT for hepatitis-B virus and HIV infection include:**
  - Sharing of injection needles, surgical instruments with infected persons
  - Transfusion of blood
  - From infected mother to foetus
- **Symptoms and Complications of STIs**

Early detection	Late detection
Symptoms	Complications
Itching, fluid discharge, slight pain, swellings in the genital region	Pelvic inflammatory diseases (PIDs), abortions, still births, ectopic pregnancies, infertility, cancer of reproductivity tract

- **Preventive measures to avoid STIs:**
  - Avoid sex with unknown partners/multiple partners
  - Always try to use condoms during coitus

11 INFERTILITY

- **Infertile couple:** Unable to produce children inspite of 2 years of unprotected sexual co-habitation
- **Reasons for infertility:**
  - Physical
  - Congenital
  - Diseases
  - Immunological
  - Psychological
- Infertility as a problem could be with either the male or female partner.
- In India, female is blamed often than male for the couple being childless

Help for infertile Couples Comes in the form of ASSISTED REPRODUCTIVE TECHNOLOGIES (ART)

Parameter	*in-vitro* fertilisation	*in-vivo* fertilisation
• Site of fertilisation	• Outside the body in simulated conditions in laboratory	• In the female reproductive tract
• Can female produce ova?	• Yes	• No
• Embryo transfer	• Yes	• No
• Example of techniques	• ZIFT, IUT, ICSI	• GIFT, AI, IUI

Site of Embryo Transfer (ET) based on number of blastomeres

Parameters	Upto 8 blastomeres	More than 8 blastomeres
• Location	in fallopian tube	in uterus
• Technique	• **ZIFT:** Zygote intra fallopian transfer	• **IUT:** Intra uterine transfer

- **Other details of ART involved :**
  - ICSI : Intra cytoplasmic sperm injection
    - Sperm injected directly into the egg
  - **Artificial Insemination (AI):**
    - Semen introduced in vagina or uterus
    - Low sperm count or inability of male to inseminate female
    - **IUI :** Intra uterine insemination
  - **GIFT :** Gamete intra fallopian transfer
    - Female can provide conditions for fertilisation and further development

Test tube baby programme involves techniques with ***in-vitro* fertlisation**