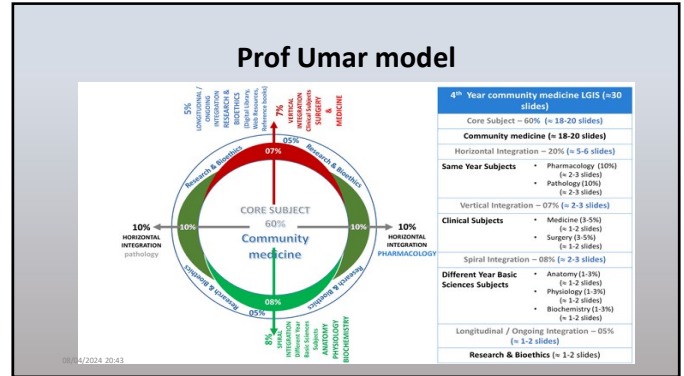


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4

SHORT GROUP DISCUSSION TOPIC

EVALUATION OF FAMILY PLANNING METHODS.

PREVENTIVE ASPECTS OF BREASTFEEDING

REPRODUCTION MODULE

2

Teaching strategy of SGD

S.No	Headings	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Horizontal Integration	5%+5%=10%
4	Core Concepts of the topic	60%
5	Vertical Integration	20%
6	Related Advance Research points	3%
7	Related Ethical points	2%

5

Vision & Mission of RMU

Vision

Highly recognized and accredited center of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable.

Mission Statement

To impart evidence-based research-oriented health professional education in order to provide best possible patient care and inculcate the values of mutual respect, ethical practice of healthcare and social accountability.

3

- ### Sequence of Lecture:
- Learning objectives(01 slides)
 - Core subject (47 slides)
 - Digital Library References(02 slides)
(Research, Bioethics)
 - Family medicine(01 slide)
 - End of Lecture Assessment (EOLA)(02 slides)

6

Learning objectives

At the end of SGD , students will be able :

- To understand Hormonal oral contraceptives
- To describe Hormonal implants
- To explain Tubal ligation and vasectomy
- To describe Intrauterine contraceptive devices
- To explain Emergency contraception and New contraceptive technology
- To explain preventive aspects of breastfeeding

7

CLASSIFICATION OF CONTRACEPTIVE METHODS

- **Terminal Methods**
 - 1. Female Sterilization
 - 2. Male Sterilization

10

CLASSIFICATION OF CONTRACEPTIVE METHODS

- Spacing Methods
- Terminal Methods

8

CLASSIFICATION OF HORMONAL CONTRACEPTIVES

Core subject

- ❑ **Oral Pills**
 1. Combined Oral Contraceptive Pill (COC).
 2. Progestogen only pill (POP).
 3. Post coital pill
 4. Once a month (long acting) pill
 5. Male Pill.
- ❑ **Depot (slow release) formulations**
 - Injectables, - Subcutaneous Implants, - Vaginal Rings
- ❑ **New innovations**
 - [Contraceptive Patch \(Evra Patch\)](#)
 - [Vaginal Contraceptive Ring \(Nuva Ring\)](#)

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CLASSIFICATION OF CONTRACEPTIVE METHODS

- **Spacing Methods**
 1. **Barrier Methods.**
 - Physical Methods.
 - Chemical Methods.
 - Combined Methods
 2. **Intrauterine Devices (IUCD).**
 3. **Hormonal Methods.**
 4. **Post conceptional Methods.**
 5. **Miscellaneous.**

9

HORMONAL CONTRACEPTIVES

Core subject

- The most effective spacing methods, when properly used.
- Oral contraceptives of combined type are almost 100% effective in preventing pregnancy.
- **Synthetic estrogens and progestogens are used.**

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COMBINED ORAL CONTRACEPTIVE PILLS

Core subject+

- Major spacing methods of contraception.
- Most formulations contain no more than 30-35 mcg of :
 - a synthetic estrogen and
 - 0.5 to 1 mg of a progestogen
- Given orally for consecutive 21 days beginning on 5th day of menstrual cycle with 7 day period of withdrawal bleed.



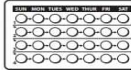
13

Recommended Actions After Late or Missed Combined Oral Contraceptives

Core subject+ VI

If one hormonal pill is late (<24 hours since a pill should have been taken)

- Take the late or missed pill as soon as possible.
- Continue taking the remaining pills at the usual time (even if it means taking two pills on the same day).
- No additional contraceptive protection is needed.
- Emergency contraception is not usually needed but can be considered if hormonal pills were missed earlier in the cycle or in the last week of the previous cycle.



If two or more consecutive hormonal pills have been missed (>48 hours since a pill should have been taken)

- Take the most recent missed pill as soon as possible (any other missed pills should be discarded).
- Continue taking the remaining pills at the usual time (even if it means taking two pills on the same day).
- Use back-up contraception (e.g., condoms) or avoid sexual intercourse until hormonal pills have been taken for 7 consecutive days.
- If pills were missed in the last week of hormonal pills (e.g., days 15-21 for 28-day pill packs):
 - Omit the hormone-free interval by finishing the hormonal pills in the current pack and starting a new pack the next day.
 - If unable to start a new pack immediately, use back-up contraception (e.g., condoms) or avoid sexual intercourse until hormonal pills from a new pack have been taken for 7 consecutive days.
- Emergency contraception should be considered if hormonal pills were missed during the first week and unprotected sexual intercourse occurred in the previous 5 days.
- Emergency contraception may also be considered at other times as appropriate.

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ORAL PILLS MODE OF ACTION

Core subject

- Prevent the release of the ovum from the ovary by;
- Blocking the hypothalamic secretion of gonadotrophin GnRH that is necessary for ovulation to occur.
- Progestogen Only preparations render the cervical mucus thick and scanty.
- Progestogens also inhibit tubal motility and delay the transport of the sperm and of the ovum to uterine cavity

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Absolute contraindications for use of COCP

Core subject

Breastfeeding <6 weeks postpartum
Smoking ≥15 cigarettes/day and age ≥35
Multiple risk factors for cardiovascular disease
Hypertension: systolic pressure ≥160 or diastolic ≥100 mmHg
Hypertension with vascular disease
Current or history of deep-vein thrombosis/pulmonary embolism
Major surgery with prolonged immobilization
Known thrombogenic mutations
Current or history of ischaemic heart disease
Current or history of stroke
Complicated valvular heart disease
Migraine with aura
Migraine without aura and age ≥35 (continuation)
Current breast cancer
Diabetes for ≥20 years or with severe vascular disease or with severe nephropathy, retinopathy or neuropathy
Active viral hepatitis

17

ACTIONS OF COCP

Core subject

1. Inhibits follicular development (FSH)
2. Inhibits ovulation (LH)
3. Makes the Cervical Mucus thick and cellular.
4. Inhibits sperm capacitation.
5. Inhibits Implantation of the Zygote.
6. Offers reversible contraception

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Relative contraindications for use of COCP

Core subject

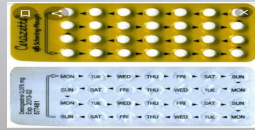
Multiple risk factors for arterial disease
Hypertension: systolic blood pressure 140-159 or diastolic pressure 90-99 mmHg, or adequately treated to below 140/90 mmHg
Some known hyperlipidaemias
Diabetes mellitus with vascular disease
Smoking (<15 cigarettes/day) and age ≥35 years
Obesity
Migraine, even without aura, and age ≥35 years
Breast cancer with ≥5 years without recurrence
Breastfeeding until six months postpartum
Postpartum and not breastfeeding until 21 days after childbirth
Current or medically treated gallbladder disease
History of cholestasis related to combined oral contraceptives
Mild cirrhosis
Taking rifampicin (rifampin) or certain anticonvulsants

18

PROGESTOGEN ONLY PILL (Mini Pill)

Core
subject

- Contains only progestin, which is given in small doses throughout the cycle.
- **Advantages**
- Older women with cardiovascular risks.
- Young women with risk factors for neoplasia.
- No effect on lactating baby
- **Disadvantages**
- Poor cycle control
- Increased pregnancy rate.



19

ADVERSE EFFECTS OF ORAL PILLS

Core
subject

- Cardiovascular Effects
 - Carcinogenesis
 - Metabolic Effects
1. **Liver Disorders**— Hepatocellular adenoma, Gall bladder disease etc
 2. **Lactation**- quantity and constituents of breast milk , premature cessation of lactation.
 3. **Subsequent Fertility**— slight delay in conception
 4. Fetal developmental problems.

22

POST COITAL CONTRACEPTION

Core
subject

- It is recommended within 72 hours of unprotected intercourse. It is advocated as an **Emergency method**.
- The method is to give double dose of the standard combined pill, that is 2 pills immediately followed by another 2 pills 12 hours later.
- Post coital or morning after pills ie;
Tab Postinor (contains Levonorgestrel 0.75mg)
- Emergency IUCD insertion within 7 days of unprotected intercourse.
Cu T 380 A.

20

ORAL PILLS BENEFICIAL EFFECTS

Core
subject

Protection against

- Benign breast disorders
- Ovarian cyst
- Iron Deficiency Anemia
- Pelvic Inflammatory Disease
- Ectopic pregnancy
- Ovarian Cancer

23

DANGER SIGNS OF PILL USE

Core
subject

- A- Abdominal pain (severe)
- C- Chest pain (severe), cough, shortness of Breath.
- H- Headache (severe), dizziness, weakness or numbness.
- E- Eye problems (vision loss or blurring).
- S- Speech problems, severe leg pain (Calf or thigh).

21

DEPOT FORMULATIONS

Core
subject
+ VI

These are highly effective, reversible, long acting and estrogen free with a single administration for several months or years.

These include:

1. Injectable Contraceptives
 - DMPA (Depot Medroxyprogesterone Acetate)
 - NET-EN (Norethisterone Enantate)
 - DMPA-SC
2. Subdermal Implants; Norplant
3. Vaginal Rings

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Depomedroxyprogesterone Acetate

Core subject

- It is safe, effective and acceptable contraceptive. It does not effect lactation.
- Mode of Action
 1. Suppression of ovulation.
 2. Indirect effect on endometrium.
 3. Direct action on fallopian tube.
 4. Action on the production of cervical mucus.

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- NORPLANT



- IMPLANON



- JADELLE



28

DOSE :

150 mg I/M injection every 3 months.

Side Effects:

- Weight gain
- Irregular menstrual bleeding
- Prolonged infertility



Core subject

26

DISADVANTAGES OF NORPLANT

Core subject

- Irregular menstrual bleeding
- Surgical procedure necessary to insert and remove implants.



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SUBDERMAL IMPLANTS NORPLANT

Core subject+ VI

- It consists of 6 silastic (silicone rubber) capsules containing 35 mg each of Levonorgestrel.
- Implanted beneath the skin of the forearm or the upper arm.
- Effective contraception provided for over 5 years. The contraceptive effect is reversible.

27

TRANSDERMAL PATCH

Core subject

- The Transdermal Contraception System, (EVRA Patch) is an effective hormonal form of birth control.
- It contains a progestin and an estrogen.
- Only one patch is worn at a time.



30

POST-CONCEPTIONAL METHODS

Core subject

1. Menstrual regulation

Aspiration of the uterine contents within 6-14 days of a missed period.

2. Menstrual induction

By disturbing the normal progesterone-prostaglandin balance by intrauterine application of 1-5 mg solution (or 2.5-5 mg pallet) of prostaglandin F2 under sedation.

3. Oral Abortifacient

31

FIRST GENERATION IUCDs

Core subject

LIPPE'S LOOP

- ❖ Double S shaped device.
- ❖ Material- non toxic, non tissue reactive and durable.
- ❖ Small amount of Barium Sulfate.
- ❖ Loop has attached threads or "tail"- re assurance and removal.



34

THE PERSONA

Core subject

- Natural family planning enters the era of new technology.
- **PERSONA MONITOR AND TEST STICK** is used to measure the levels of LH and oestrone-3-(E3G)glucuronide in early morning urine.



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SECOND GENERATION IUCDs

Core subject

- ❑ Addition of Copper, which has strong anti fertility effect, to IUDs.

ADVANTAGES

- ❑ Effective life of at least 5 years.
- ❑ Low expulsion rate.
- ❑ Lower incidence of side effects.
- ❑ Easier to insert.
- ❑ Increased contraceptive effectiveness.

35

INTRA UTERINE CONTRACEPTIVE DEVICE

Core subject

- First Generation or non medicated or inert IUCDs.
- Second Generation or Copper IUCDs.
- Third Generation or hormone releasing IUCDs.
- New Method



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Copper IUCD

Core subject

- ❑ Earlier Devices
 - ❑ Copper 7
 - ❑ Copper T 200
- ❑ Newer Devices
 - ❑ Variants of the T device
 - ❑ Cu T 220C
 - ❑ Cu T 380 A or Ag
 - ❑ Nova T
 - ❑ Multiload
 - ❑ ML Cu 250
 - ❑ ML Cu 375

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THIRD GENERATION IUCDs

Core subject

PROGESTASERT

- T-shaped device filled with 38 mg of progesterone.
- Hormone released slowly in the uterus (65 mcg daily)
- Direct local effect on the uterus lining and on the cervical mucus and sperms

MIRENA (Levonorgestrel releasing)

- T-shaped device releasing synthetic steroid (20 mcg)
- Low preg rate, less no of ectopic preg, Lower menstrual blood loss (suitable for women with anemia)
- Effective life of 10 years.
- Expensive

37

IUCDs CONTRAINDICATIONS

Core subject

Absolute contraindications

Suspected pregnancy, Pelvic inflammatory diseases, Vaginal bleeding of undiagnosed etiology, Cancer of the uterus or adnexa and other pelvic tumors, Previous ectopic pregnancy.

Relative contraindications

Anemia, Menorrhagia, History of PID, Purulent cervical discharge, Distortions of the uterine cavity, Unmotivated individual

40

IUCDs MECHANISM OF ACTION

Core subject

- Cause a foreign body reaction which impairs the viability of gamete and reduce chances of fertilization.
- Copper enhances the cellular response and affects enzymes in the uterus.
- Copper ions alter biochemical composition of cervical mucus.
- Hormone releasing devices increase the viscosity of cervical mucus.
- High levels of progesterone and relatively low levels of estrogen sustain an endometrium, unfavorable for implantation.

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IDEAL IUCD CANDIDATE

Core subject

- Who has borne at least one child.
- Has no history of pelvic disease.
- Has normal menstrual periods.
- Is willing to check the IUCD tail.
- Has access to follow up and treatment of potential problems.

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IUCDs ADVANTAGES

Core subject

- Simplicity
- Insertion takes only a few minutes
- Inexpensive
- Reversible
- Free of systemic metabolic side effects
- No need for continual motivation

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IUCDs TIMING OF INSERTION

Core subject

- During menstruation or Within 10 days of the beginning of the menstrual period, because:
 - * Diameter of cervical canal is greater and insertion technically easy.
 - * Uterus is relaxed and myometrial contractions are at a minimum.
 - * The risk of pregnancy is remote.
- Immediate post partum insertion
- Post puerperal insertion

42

Follow up

Core
subject

- The objectives are:
 - * To provide motivation and emotional support.
 - * To confirm the presence of IUCD.
 - * To diagnose and treat any side effect or complication.

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MALE STERILIZATION VASECTOMY

Core
subject
+ VI

• **PROCEDURE**

Under local anesthesia and aseptic conditions, piece of vas deferens (about 1 cm) is removed. The ends are ligated and then folded back.

46

IUCDs COMPLICATIONS

Core
subject

1. Bleeding
2. Pain
3. Pelvic Infection
4. Uterine Perforation
5. Pregnancy
6. Ectopic Pregnancy
7. Expulsion(partial, complete)
8. Fertility after removal
9. Carcinogen effects: no evidence to date

44

COMPLICATIONS

Core
subject

- * Pain
- * Hematoma
- * Local infection
- * Spermatic granules
- * Spontaneous re canalization
- * Autoimmune response
- * Psychological

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Terminal Methods (Sterilization)

Core
subject

- Male Sterilization
- Female Sterilization
- New(modern) methods
 - [Micro insert](#)
 - [Quinacrine pellets](#)
- **Advantages**
 - * One time method.
 - * Does not require sustained motivation.
 - * The most effective protection.
 - * The most cost effective method.

45

FEMALE STERILIZATION

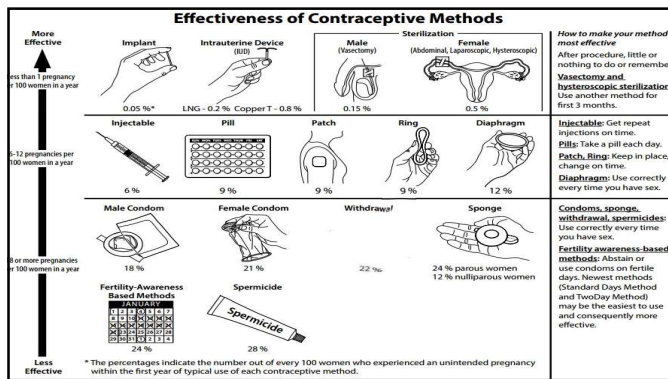
Core
subject
+ VI

- It can be done as an interval procedure, postpartum or at the time of abortion.
- Two procedures are commonly used
- * **LAPROSCOPY**

Ligation is done through specialized instrument called Laparoscope. The falope rings are applied to occlude the tubes.
- * **MINILAP OPERATION**

conducted under local anesthesia.
Safe, efficient and suitable for post partum sterilization.

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FAMILY MEDICINE

A primary care physician should counsel, inform & educate clients about methods of delivery and follow-up. The basic package of FP methods available include modern methods (e.g., hormonal contraceptives, IUDs), condoms, postpartum FP and the lactational amenorrhea method in addition to referrals for methods requiring higher levels of care, such as implants and sterilization.

52

Evaluation of family planning

Core subject

- It is measured by the number of unplanned pregnancies that occur during specified period of exposure and use of contraceptive method.

Two methods used to measure it are:

- Pearl index
- Life table analysis

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RESEARCH

Pakistan is the world's fifth most populous country, and its current population growth rate of 2.4% sets it on a path where its population will increase from the current 208 to 310 million by 2050. This will profoundly impact Pakistan's socioeconomic status and environment, and affect its ability to achieve its Sustainable Development Goals (SDGs), especially SDG 3 (good health and well-being). To address this rapid population growth, Pakistan committed at the London Summit on Family Planning 2012 to raise its contraceptive prevalence rate (CPR) to 55% by 2020.

Raising the contraceptive prevalence rate to 50% by 2025 in Pakistan: an analysis of number of users and service delivery channels

Mujahid Abbudulahi¹, Fatma Bhatti², Azeed Ahmed³, Aamer Ashraf Khawaja⁴, Faisal Sultan⁵ and Adnan Ahmed Khan^{6*}

Abstract Pakistan is the fifth most populous country in the world, with a population that is growing at 2.4% annually. Despite considerable political will, including a national commitment that was endorsed by the president to raise the contraceptive prevalence rate (CPR) to 50% by 2025, it has stagnated at around 30-35%. Much of the stagnation on raising CPR is hypothesized to be modern method percentage point change rather than an actual number of women that must be served.

Methods The Demographic and Health Survey (DHS) 2017-18 (DHS 2017-18) provides information about the channels through which users receive family planning (FP) services and disaggregates this information at the provincial level. Proportions of users from each of these channels were multiplied by the Pakistan Census 2017 population to arrive at the number of users. These users were compared with the total FP users and the number of women that had used any FP service in the past 12 months. Linear estimations of population were applied to calculate population numbers in 2025.

Results The national target of 50% CPR by 2025 translates to a population of 260.2 million users. Currently, 11.26 million married women of reproductive age (MWRWA) use any method, 8.22 million use a modern method and 4.94 million received this service in the past 12 months. Of these, 3.7 million did so from sector marketing outlets, 0.76 million from public sector outreach through lady health workers (LHWs), 0.55 million from private sector and 0.88 million from public sector facilities. However, getting at the CPR target means expanding annual service delivery from 4.94 to 13.7 million users. Since social marketing and LHW outreach may have become saturated, only public and private health facilities are the likely channels for such an expansion.

Conclusions We demonstrate triangulation of the survey data with the census data as a simple policy analysis tool that can help decision-makers estimate the quantum of services they must provide. Such an analysis also allows an understanding of the utilization pattern of each of these channels in Pakistan's context, underutilization of funds, and existing facilities suggests that increased funding or more providers will likely not be helpful. The policy changes that will likely be most effective include adding outreach to support existing public and private sector facilities while ensuring that procurement of commodities is prioritized.

Keywords Contraceptive prevalence rate, Pakistan, population growth, reproductive health, service delivery channels.

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PREVENTIVE ASPECTS OF BREASTFEEDING

- Exclusive Breastfeeding is critical in child spacing
- It promotes involution of uterus
- It is a protective factor against breast and ovarian cancer
- It protects against cardiovascular diseases and diabetes
- It creates psychological bond between mother and child

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BIOETHICS

- All couples and individuals have the basic right to decide freely the number and spacing of their children and to have the information, education and means to do so. The right to confidential reproductive health care is still limited by laws or practice in many countries. There has been an increase in the number of unwanted adolescent pregnancies with serious medical, psychological and social consequence

- Fathalla, Mahmoud. (1984). The ethics of family planning. World health. 27-29.
- https://www.researchgate.net/publication/273762367_The_ethics_of_family_planning

54

MCQ 1

The success of birth control program in controlling population growth is dependent on

- a. Tubectomy
- b. Use of contraceptives
- c. Vasectomy
- d. Acceptability of the above by the people
- e. Evaluation of contraceptives

55

MCQ2

The action of cream and jelly is

- a. Entangles sperm
- b. Spermicidal and immobilizing the sperms
- c. Enables sperms to reach towards ovum speedily
- d. Prevents the ova from being released
- e. Prevents implantation

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