

ONMedU, Department of Obstetrics and Gynaecology. Elective discipline "Family Planning. Contraception". Practical lesson №2. "Modern methods of contraception (part I)"

**MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY**

Faculty international

Department of Obstetrics and Gynecology



CONFIRMED BY

Vice-Rector for Scientific and
Pedagogical Work

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**METHODOLOGICAL RECOMMENDATIONS FOR PRACTICAL
CLASSES IN AN ELECTIVE DISCIPLINE**

Faculty International, 4th course

Elective discipline "**Family planning. CONTRACEPTION**"

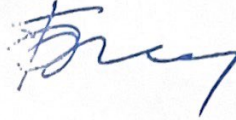
Practical lesson 2. Topic: "Modern methods of contraception (Part I). Hormonal contraception"

Methodological recommendations of practical lesson #2, 4th year, International faculty. Elective discipline: "Family planning. Contraception".

CONFIRMED BY

Meeting of the Department of Obstetrics and Gynecology
Odesa National Medical University


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Practical lesson 2

Topic: "Modern methods of contraception (Part I). Hormonal contraception"

Aim: To systematise and deepen knowledge of modern methods of contraception, in particular hormonal methods. To learn the mechanism of their action, advantages and disadvantages, indications, contraindications. Learn the rules for using hormonal contraceptives. To study the types of emergency contraception, indications for use, and mode of use. To learn the plan for examining a patient before choosing a hormonal contraceptive method. Learn to assess the patient and medical criteria for hormonal contraception.

Basic concepts: Classification of modern methods of contraception. Hormonal contraception: classification, mechanism of action, advantages, disadvantages, rules for the use of hormonal contraceptives. Types of emergency contraception, indications for use, mode of use.

Equipment: Professional algorithms, structural and logical diagrams, tables, models, videos, results of laboratory and instrumental studies, case studies, patients, medical histories.

I. Organizational measures (greetings, checking the attendees, announcing the topic, the purpose of the lesson, motivating higher education students to study the topic).

According to key international documents and regulations on reproductive health care, family planning is considered the main means of preserving the health of women and men, and is also a fundamental human right.

In 85-92% of cases, unplanned pregnancies end in induced abortion, which can lead to complications that negatively affect a woman's reproductive health and cause significant economic losses. Global experience shows that the use of modern contraceptive methods as a means of preventing unplanned pregnancy leads to a reduction in the frequency of induced and illegal abortions, which can reduce maternal mortality by 25-50%.

Hormonal contraception is considered one of the most modern methods of contraception and family planning. Consultation services on hormonal contraception involve a comprehensive assessment of the patient's life circumstances and health status, taking into account her health status, life circumstances, and specific needs for reproductive health services. When choosing a hormonal contraceptive method, it should be effective and convenient for a woman to use, and the possible risk of complications should be minimised. The contraceptive effect should be temporary and reliable, so that reproductive function can be restored at the user's request. This method does not disturb the physiology of sexual intercourse and does not cause negative emotions. The method can also have a positive effect on a woman's health (normalisation of hormonal disorders). One of the important conditions is the reliability of hormonal contraception (90-

92%), the possibility of long-term use, and the availability of the method (reasonable price, commercial availability).

2. Control of the reference level of knowledge (written work, written testing, online testing, frontal survey, etc.).

Knowledge requirements:

- communication and clinical examination skills;
- ability to determine the list of necessary clinical, laboratory and instrumental tests and evaluate their results;
- ability to provide counselling on the prescription of hormonal contraception.

List of didactic units:

- counselling on hormonal contraception;
- mechanism of action, advantages, disadvantages;
- rules for the use of hormonal contraceptives;
- indications and contraindications for prescribing hormonal contraceptives;
- types of emergency contraception, indications for use, and mode of use;
- medical criteria for the acceptability of contraceptive methods (WHO);
- classification of categories of contraceptive use depending on a woman's health status (WHO);
- patient assessment;
- a necessary examination, which is carried out in a planned manner before making a decision on the use of hormonal and emergency contraception.

3. Questions (tests, tasks, clinical situations) to test basic knowledge on the topic of the practical class.

Typical situational tasks:

1. A patient D., who suffers from premenstrual syndrome, came to the antenatal clinic. The woman is 26 years old, has a history of 1 delivery, 2 induced abortions, the last one 5 days ago.

Question: Can a woman start using COCs immediately?

Answer: Yes.

2. Patient Z., consulted a doctor at the antenatal clinic for the selection of an effective contraceptive method. The woman is 35 years old, has a history of 1 birth, 2 induced abortions. She wants to use COC. Her medical history reveals that she suffers from hypertension and had pre-eclampsia during pregnancies.

Objective: Is it possible to recommend COC to a woman?

Answer: No, you can't.

Typical test tasks:

1. When counselling patients about the use of hormonal contraceptives, the following issues should be discussed:

- a. Mechanism of action
- b. Time and frequency of use
- c. Side effects

- d. Fertility restoration period
 - e. All of the above
2. When counselling a woman on the use of COC, the counsellor should explain the following conditions to her:
- a. Where you can buy drugs for COC.
 - b. When to start using COCs.
 - c. About the mechanism of action of COC
 - d. About contraindications and side effects of COC.
 - e. All of the above.
3. Except which category Hormonal contraception as a method of contraception is suitable?
- a. Couples who want to use a method that does not involve intercourse
 - b. Women who have a regular sexual partner
 - c. Women with hirsutism, acne
 - d. Women with endometriosis, endometrial hyperplasia
 - e. Sexual partners with a high risk of STDs
4. A woman has come to see a doctor to select a contraceptive method. She has been breastfeeding for 8 months postpartum. She has been menstruating for 2 months. What contraceptive method should not be used in this case?
- a. Intrauterine device
 - b. Contraceptive pills progesterone-type
 - c. Condoms
 - d. The method of lactational amenorrhoea
 - e. Combined oral contraceptives
5. A woman has come to a doctor's office to select a method of contraception, she has viral hepatitis B. Which method of contraception should not be used in this case?
- a. Combined oral contraceptives
 - b. Copper metal uterine device
 - c. Surgical sterilisation
 - d. Condoms
 - e. Spermicides
6. A 45-year-old woman with two children came to see a doctor. She has a history of varicose veins of the lower extremities and suffered from thrombophlebitis three years ago. What method of contraception should not be used in this case?
- a. Intrauterine device.
 - b. Progesterone contraceptive pills.
 - c. Condoms.
 - d. Combined oral contraceptives.
 - e. Spermicides
7. A 35-year-old woman visited an antenatal clinic to select a contraceptive method. She has a history of 1 childbirth 5 years ago, during pregnancy there was swelling of the lower extremities, an increase in blood pressure to 180/110 mmHg.

After giving birth, she has periodic migraines and an increase in blood pressure to 160/100 mmHg, and is not planning to have a child in the near future. What method of contraception is not indicated in this case?

- a. Barrier methods.
- b. Purpose of the COC
- c. Purpose of the IUD
- d. Surgical sterilisation
- e. Spermicides

8. A 26-year-old woman gave birth 5 months ago, is breastfeeding, menstruation resumed after 4 months. She has consulted a doctor to choose a method of contraception. Which contraceptive method is inappropriate for this woman?

- a. The method of lactational amenorrhoea
- b. The purpose of the IUD
- c. Barrier methods
- d. Purpose of the PPOC
- e. Spermicides

Correct answers: 1 - e; 2 - e, 3 - e, 4 - d, 5-a, 6-d, 7-b, 8-a

4. 4. Discussion of theoretical issues

Question:

- Classification of modern contraceptive methods
- Combined oral contraceptives (COCs): types, mechanism of action
- Combined oral contraceptives (COCs): advantages and disadvantages
- Combined oral contraceptives (COCs): indications and contraindications.
- Progesterone contraceptives: types, mechanism of action
- Progesterone contraceptives: advantages and disadvantages
- Progesterone contraceptives: indications and contraindications.
- Rules for the use of hormonal contraceptives.
- Types of emergency contraception, indications for use, and mode of use.
- Necessary examination, which is carried out in a planned manner before making a decision on the use of hormonal contraception
- Side effects of different contraceptive methods.
- Instructions for the patient when using different contraceptive methods.

An interactive task:

We divide the students into 3 subgroups of 4-5 people each. We work in the offices of a women's clinic with gynaecological patients and give them tasks:

I subgroup - taking anamnesis, assessing the patient

Subgroup II - counselling on family planning and selection of hormonal contraceptive methods

The third subgroup assesses the correctness of the answers of the first and second subgroups and makes its own corrections.

Atypical situational tasks:

1. A patient K., 18 years old, unmarried, somatically healthy needs to use reliable contraception.

Sexual relations since the age of 15, irregular - 2-4 times a month. No permanent sexual partner. There have been no pregnancies. The girl's physical development is in line with her age. At the age of 6, she suffered from Botkin's disease. Weight - 59 kg, height - 165 cm. There is acne on the skin of the face (forehead and chin), slight hypertrichosis.

Objective: Which contraceptive method is most appropriate for this patient?

Response: The recommendation of monophasic COCs can be considered a universal suggestion. The advantages of monophasic COCs are their high contraceptive efficacy and therapeutic properties in various hormone-dependent diseases (endometrial hyperplasia, endometriosis, dyshormonal breast diseases, etc.). For example: "Janine", "Novinet", "Belara" in a cyclic mode. This is a reliable method of contraception, but COCs do not protect against STIs or HIV.

2. Patient Y., 18 years old, complained of heavy menstruation, weakness, and fatigue.

Sexual life is regular, since the age of 16. The sexual partner is permanent. Four months ago she underwent a medical termination of pregnancy at 6-7 weeks without complications, after which her menstruation became heavy. Over the past month, the patient began to feel weak and fatigued. Complete blood count: Hb - 90 g/l.

Task: What method of contraception should be offered? What regimen of COC can be offered?

Response: It is recommended to use COCP, which contains the progestin dehydrogesterol, which suppresses endometrial proliferation.

It is possible to use COC in a continuous prolonged regimen according to the 42-63-84-126 (days) + 7 days regimen to restore the blood Hb level and the patient's general condition

3. A 25-year-old woman, who has been using COCP for the past 3 months for contraception, came to the antenatal clinic. Her main complaint is that she often forgets to take her daily pill. **Task:** What is the doctor's advice in this case?

Response: The patient should be prescribed other hormonal contraceptives, such as a vaginal ring or hormonal patch, or recommended barrier methods.

Atypical test tasks:

1. A 36-year-old female patient visited a doctor to choose a contraceptive method. The patient smokes and drinks alcohol moderately. There is a history of 2 births, 1 abortion. There is no extragenital pathology, she does not plan any more pregnancies. Which contraceptive should the doctor not recommend to the patient?

- a. Spermicides
- b. IUD from Cu C.
- c. COC
- d. Condoms
- e. Surgical sterilisation

2. Patient K. visited a doctor to choose a contraceptive method. She wants to use COCP. There is no extragenital pathology. There are no contraindications to the use of this method of contraception. What possible side effects should the doctor warn the patient about?
- Reducing body weight
 - Increased blood pressure
 - Sleep disorders
 - Reduced appetite
 - Increased fatigue

The correct answers are: 1 - c; 2 - b

Test tasks KROK-2:

1. (2019) A 32-year-old woman visited an antenatal clinic with complaints of chronic pelvic pain that worsens during menstruation, dyspareunia, and bleeding before and after menstruation. The last menstrual period was 3 weeks later. Examination in the mirrors: 2 cysts 3 and 5 mm in diameter of blue-purple colour on the cervix, from which dark brown fluid is discharged. Bimanual examination: spherical uterine body, enlarged to 6 weeks of gestation, painful to palpate. The appendages on both sides are unremarkable. The doctor has been informed that the birth of a child is not planned in the near future. What is the most appropriate treatment strategy for this patient?
- Controlled ovarian hyperstimulation
 - Prescribing combined oral **contraceptives***.
 - The purpose of androgens
 - Surgical intervention
 - Prescription of gonadotropin-releasing hormone antagonists
2. (2008) A 26-year-old woman who gave birth 7 months ago has been experiencing nausea, vomiting in the morning, and drowsiness for the past two weeks. She is breastfeeding and has not had any menstruation. She has not been warned against pregnancy. Which method should be used to clarify the diagnosis?
- Ultrasound **examination***.
 - Ro-radiography of the pelvic organs
 - Palpation of the mammary glands and squeezing out milk
 - Two-handed vaginal examination
 - Research with mirrors

5. Topics of reports / abstracts:

- Classification of hormonal contraceptive methods.
- Transdermal therapeutic system (hormonal patch) - indications, contraindications, mechanism of action, advantages, disadvantages.
- Combined action vaginal ring - indications, contraindications, mechanism of action, advantages, disadvantages.
- Tablet contraceptives containing progestogen - indications, contraindications, mechanism of action, advantages, disadvantages.

- Progestin injectable contraceptives - indications, contraindications, mechanism of action, advantages, disadvantages.
- Intrauterine system with levonorgestrel - indications, contraindications, mechanism of action, advantages, disadvantages.
- Emergency contraception - indications, contraindications, mechanism of action, advantages, disadvantages.
- Instructions for the patient when using different contraceptive methods.

Instructions for the patient

- Take 1 tablet daily, preferably at the same time of day. Take the first tablet on the first day of your period. You can also start on any of the 5 days after the start of your period. There is no need to use any other method of contraception. Some packs contain 28 tablets, others contain 21 tablets. After finishing the 21-tablet pack, take a break for one week (7 days) and then start taking the tablets from the new pack, i.e. from day 8.
- After using a pack of 28 tablets, you must start taking tablets from a new pack without any interruption. There is also a COC on the market that contains 26 coloured active tablets and 2 white inactive tablets in each pack. If you start vomiting within 2 hours of taking the tablet, take 1 more tablet from the other pack. Continue taking the tablets as usual. In such cases, it is better to take the tablets regularly at bedtime, which significantly reduces the feeling of nausea.
- If you are less than 12 hours late in taking 1 pill, take it as soon as you remember, even if this means using 2 pills on the same day. The contraceptive effect will remain. Take your next pill at the usual time. If you miss 1-2 pills in the first week, take the missed pill as soon as you remember (even if this means taking 2 pills on the same day), and take the next pill at the usual time. For the next 7 days, you should use an additional method of contraception (barrier method). However, if you have sexual intercourse during the week before you miss the pill, pregnancy cannot be completely ruled out.
- **Consult your doctor!** If you miss 1-2 pills in the second week of taking the pill, take the missed pill as soon as you remember (even if this means taking 2 pills in one day), and take the next pill at the usual time. The contraceptive effect will remain, and there is no need for an additional method of contraception. If you miss 1-2 pills during the third week of taking the pill, choose one of the following recommendations:
 - **Recommendation 1:** Take the missed tablet as soon as you remember (even if this means taking 2 tablets in one day), and take the next tablet at the usual time. Start taking the new pack immediately after finishing the previous pack (without taking a break). **Recommendation 2:** Stop taking the tablets from the current pack. After a break in taking the tablets (no more than 7 days, including the day of the missed dose), start a new pack. In case of absence of the next expected menstruation, consult your doctor.
- If you miss 3 pills in the first or second week, take the hormone pill as soon as possible and use an additional method (such as condoms) or abstain from sexual

intercourse for the next 7 days. Consult a healthcare professional. Each new missed pill further reduces contraceptive reliability. Also, if you have had unprotected sexual intercourse within the previous 5 days, you should take TNC.

- If you miss 3 tablets in the third week, take the hormone tablet as soon as possible. Complete all the remaining hormonal tablets in the pack. You should not take 7 non-hormonal pills from a pack containing 28 pills. Start taking the pills from a new pack the next day. You should use an additional method (e.g. condoms) or abstain from sexual intercourse for the next 7 days. If you have had unprotected sexual intercourse within the previous 5 days, you should take TFEC. If you have not had your period after finishing the COC, you should consult a doctor for a pregnancy test (before starting a new pack).

- If the patient forgets to take only one active pill (more than 12 hours late from the usual time) from days 1 to 9, and has had sexual intercourse within a week before the missed pill, she should consult a doctor. If you have not had intercourse, you should take the missed pill, take the next pill at the usual time, even if this means taking two pills on the same day and using an additional method of contraception (barrier method for the next 9 days).

- If the patient forgot to take only one active pill (more than 12 hours late from the usual dose) from day 10 to 17, take the missed pill, take the next pill at the usual time, even if this means taking two pills in one day, use an additional method of contraception (barrier method for the next 9 days).

- If a patient forgets to take only one active pill (more than 12 hours late from the usual dose) from day 18 to 24, she should not take the missed pill, but immediately start with the first pill of the new calendar pack and be sure to use an additional method of contraception (barrier method for the next 9 days).

- If the patient forgot to take only one active pill (more than 12 hours late from the usual dose) from day 25 to 26, take the missed pill, take the next pill at the usual time, even if this means taking two pills in one day, no additional method of contraception is required.

- If the patient forgot to take only one inactive pill (more than 12 hours late from the usual dose) from day 27 to 28, do not take the missed pill, do not use an additional method of contraception.

4. Summing up the results (criteria for assessing learning outcomes).

Current control: oral questioning, assessment of communication skills during a role play, solving situational clinical tasks, assessment of activity in the classroom, etc.

Final control: credit.

Assessment of current learning activities in a practical class:

1. Assessment of theoretical knowledge on the topic of the class:

- Methods: questionnaire, case study, clinical problem solving

- maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

2. Evaluation of work with patients on the topic of the lesson:

- Methods: assessment of: a) communication skills with the patient b) correct prescription and assessment of laboratory and instrumental studies before using hormonal contraceptives c) ability to conduct family planning counselling. d) ability to correctly select a hormonal contraceptive method individually.

- maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

The grade for one practical lesson is the arithmetic mean of all components and can only have an integer value (5, 4, 3, 2), which is rounded according to the statistical method.

Criteria for ongoing assessment in the practical class

Assessment	Evaluation criteria
"5"	The student is fluent in the material, actively participates in the discussion and solution of a situational clinical problem, confidently demonstrates the skills of conducting family planning counselling and the correct prescription of laboratory and instrumental studies before using a contraceptive, expresses his/her opinion on the topic of the class, demonstrates clinical thinking.
"4"	The student has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates skills in family planning counselling and the correct prescription of laboratory and instrumental tests before using a contraceptive with some errors, expresses his/her opinion on the topic of the class, demonstrates clinical thinking.
"3"	The student has insufficient knowledge of the material, is not confident in discussing and solving a situational clinical problem, demonstrates skills in conducting family planning counselling and the correct prescription of laboratory and instrumental tests before using a contraceptive with significant errors.
"2"	The student does not know the material, does not participate in the discussion and solution of a situational clinical problem, does not demonstrate the skills of conducting family planning counselling and the correct prescription of laboratory and instrumental studies before using a contraceptive.

5. List of recommended references.

Basic:

1. Family Planning: A Universal Guide for Family Planning Providers. Updated 3rd edition 2018. Copenhagen: WHO Regional Office for Europe; 2021
2. Family planning and contraception: a textbook / V.I. Boyko, N.V. Kalashnyk, A.V. Boyko and others; edited by Doctor of Medical Sciences, Professor V.I. Boyko - Sumy: Sumy State University, 2018. 223 p.

3. Obstetrics and Gynaecology: in 2 books. - Book 2. Gynaecology: textbook (for universities of III-IV years of study) / edited by V.I. Hryshchenko, M.O. Shcherbyna - 3rd ed.
4. Clinical Obstetrics and Gynaecology: 4th Edition / Brian A. Magowan, Philip Owen, Andrew Thomson. 2021. 454 p.
5. Medical eligibility criteria for the use of contraceptive methods: 5th edition. Guidelines.-Geneva: World Health Organisation; 2015.
6. Oats, Jeremy Fundamentals of Obstetrics and Gynaecology [Text]: Liewellyn-Jones Fundamentals of Obstetrics and Gynaecology / J.Oats, S.Abraham. - 10th ed. - Edinburgh [etc.]: Elsevier, 2017. - VII, 375 p.
7. Dutta, Durlav Chandra. D. C. Dutta's Textbook of Gynaecology including Contraception / D.C. Dutta; ed/ Hiralal Konar. - 7th .ed. - New Delhi: Jaypee Brothers Medical Publishers, 2016. - XX, 574 p.

Additional:

1. Lopez LM, Grimes DA, Schulz KF. Steroidal contraceptives: effect on carbohydrate metabolism in women without diabetes mellitus. Cochrane Database Syst Rev. 2019 Nov 12;2019(11).
2. Plu-Bureau G, Sabbagh E, Hugon-Rodin J. Hormonal contraception and vascular risk: CNGOF Contraception Guidelines. Gynecol Obstet Fertil Senol. 2018 Dec;46(12):823-833.
3. Infertility and benign diseases of the breast / NAMS of Ukraine, Ministry of Health of Ukraine, Institute of Paediatrics, Obstetrics and Gynaecology, UMSA; edited by A.G. Kornatska, T.F. Tatarchuk, O.D. Dubenko - K.; Poltava, 2017. - 271 p.
4. The current "Clinical Protocols" approved by the order of the Ministry of Health of Ukraine on obstetrics and gynaecology.

Online sources for preparation:

1. <https://www.cochrane.org/>
2. <https://www.ebcog.org/>
3. <https://www.acog.org/>
4. <https://www.uptodate.com>
5. <https://online.lexi.com/>
6. <https://www.ncbi.nlm.nih.gov/>
7. <https://pubmed.ncbi.nlm.nih.gov/>
8. <https://www.thelancet.com/>
9. <https://www.rcog.org.uk/>
10. <https://www.npwh.org/>