

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

International Faculty

Department of Obstetrics and Gynecology



**I APPROVE**  
Vice-rector for scientific and pedagogical work  
Eduard BURIACHKIVSKYI  
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**METHODICAL DEVELOPMENT FOR PRACTICAL LESSONS  
FROM ELECTIVE EDUCATIONAL DISCIPLINE**

Faculty of Medicine, course V I

Educational discipline "Obstetrics and gynecology in the practice of a family  
doctor"

**Practical lesson №8.** Topic: "Children's gynecology".

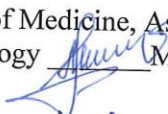
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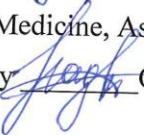
Meeting of the Department of Obstetrics and Gynecology of Odesa National Medical University

Protocol No. dated 28 August 2023.

Head of the department \_\_\_\_\_  (Ihor HLADCHUK)

**Developer:**

Doctor of Medicine, Associate Professor of the Department of Obstetrics and Gynecology  Mnih L.V.

Doctor of Medicine, Associate Professor of the Department of Obstetrics and Gynecology  O.M. Nadvorna

## Practical lesson № 8

### **Topic: "Children's gynecology"**

**Purpose:** To teach the physiological changes of the reproductive system of children and adolescents depending on the age period. To teach the peculiarities of examination and interpretation of the obtained data, tactics of management and treatment in girls and adolescents with gynecological diseases. Master counseling on contraception for teenagers. To teach how to prevent HPV among teenagers.

**Basic concepts:** Age periods of development of girls and teenagers. Formation of the reproductive system. Peculiarities of the physiology of girls and teenagers. Puberty. Disorders of menstrual function in girls and adolescents. Primary and secondary amenorrhea, algodysmenorrhea in adolescence. AMC of the pubertal period. Diagnosis of genital malformations. Contraception in teenagers, disease prevention. Vaccination against HPV in teenagers.

**Equipment:** Professional algorithms, structural and logical schemes, tables, models, video materials, results of laboratory and instrumental studies, situational problems, patients, case histories.

### **1. Organizational measures (greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic).**

Reduction of gynecological diseases in childhood and adolescence is the basis for preserving reproductive potential in the future. In Ukraine, the health control of girls as future mothers is carried out at all stages and stages of the development of the female body. For this purpose, since 1957, gynecological care for girls and teenagers has been functioning and improving, taking into account their age characteristics. Without knowledge of anatomical and physiological features in childhood and adolescence, modern research methods, without the ability to apply them in practice, it is impossible to establish a diagnosis, carry out differential diagnosis and appropriate treatment. Of all gynecological diseases, menstrual cycle disorders account for 20%. Studying the causes that cause these diseases in adolescents, developing methods of early diagnosis, treatment and prevention has not only scientific, but also practical importance in reducing gynecological morbidity and obstetric pathology, endocrine forms of infertility in the future, prevention of malignant neoplasms.

### **2. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).**

**- Requirements for the theoretical readiness of students of higher education to perform practical classes.**

Knowledge requirements:

- communication and clinical patient examination skills;
- the ability to determine the list of necessary clinical and laboratory and instrumental studies and evaluate their results;
- the ability to establish a preliminary and clinical diagnosis of the disease;
- the ability to perform medical manipulations;
- the ability to conduct consultations on children's and adolescent gynecology;
- the ability to keep medical records.

List of didactic units:

- counseling on anatomical and functional features of the reproductive system at different age stages of development of girls and teenagers;
  - assessment of puberty;
  - general overview of menstrual disorders in adolescence: primary and secondary amenorrhea, abnormal uterine bleeding in puberty;
  - assessment of the patient;
  - necessary examination, which is carried out before making a decision on the use of a specific method of treatment;
  - counseling on HPV prevention;
  - counseling on contraception for teenagers.
- **Questions (test tasks, problems, clinical situations) to check basic knowledge on the subject of the lesson.**

**Question:**

1. Age periods of development of girls and teenagers?
2. What is a sexual crisis?
3. By what indicators is the development of secondary sexual characteristics evaluated? What is the sexual formula?
4. Peculiarities of gynecological and laboratory examination in girls and adolescents.
5. What is a morphogram, body mass index, hirsute number?
6. Classification of disorders of menstrual function in adolescence.
7. Define the concept of abnormal uterine bleeding during puberty
8. Algorithm of diagnosis and provision of medical care for AMC PP?
9. Prevention of AMC PP?
10. Prevention of HPV in adolescence.
11. Choosing a method of contraception in adolescence.

**Typical situational tasks:**

1. The girl was examined by a gynecologist. The mammary glands stand out, the peri-mammary ring together with the nipple form a single cone. Thin pubic hair is noted, there is no hair growth in the armpits. Menstruation is absent. Estrogen secretion is low. What period of sexual development takes place. Make a sexual formula.

Answer: puberty. Ma2Ax0R1Me0

2. A 16-year-old girl consulted a doctor with complaints of bleeding from the genital tract for 10 days, weakness, dizziness. Bleeding began against the

background of a delay of menstruation for a week. It grew and developed normally. Denies extragenital diseases. Menstrual periods from the age of 12, established immediately 4-5 after 28 days, regular, painless. Objectively: each integument is pale, pulse 96 bpm, blood pressure 100/60 mm Hg on both hands. Ma3Ax2P2Me03. The abdomen is soft, painless, peristalsis is active. Gynecological status: the external genitalia are properly developed, pubic hair is female-type, the hymen is intact, during recto-abdominal examination: the size of the uterus corresponds to the age, the appendages on both sides are without pathological changes. Bloody discharge from the genital tract is profuse.

Previous diagnosis?

Driving tactics?

Answer: Abnormal uterine bleeding during puberty. Posthemorrhagic anemia. Additional examination: ultrasound of the pelvis, ACS, coagulogram, blood group, Rhesus factor, etc., start treatment with symptomatic hemostatic therapy, in case of ineffectiveness - hormonal hemostasis, depending on the data of the additional examination.

### **Typical test tasks:**

1. Colposcopic picture of a normal mucous membrane of the cervix:
  - A. adolescents and women of reproductive age do not differ
  - B. In adolescents, the junction zone of the cylindrical and multi-layered flat epithelium is located in the area of the external pharynx
  - C. In adolescents, the junction zone of the cylindrical and multilayered flat epithelium is often located outside the opening of the external pharynx
  - D. In adolescents, the junction zone of the cylindrical and multilayered squamous epithelium is located in the area of the lower third of the cervical canal
  - E. Teenagers do not have a connection zone
  
2. A 17-year-old patient complains of soreness and swelling of the mammary glands, headaches, irritability, swelling of the lower extremities. These symptoms disturb the beginning of menarche, appear 3-4 days before the start of the next menstruation. Gynecological examination did not reveal any pathology.

What disease does the girl have?

- A. Neurasthenia
- B. Premenstrual syndrome
- C. Kidney disease
- D. Mastopathy
- E. Diseases of the cardiovascular system

The correct answer is 1-C, 2-D

**3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.).**

**- Content of tasks (tasks, clinical situations, etc.).**

**Interactive task:**

We divide students of higher education into 3 subgroups of 4-5 people each. We work in women's consultation rooms with gynecological patients, we give tasks:

The first subgroup is the assessment of the patient.

Subgroup II - counseling of the patient on puberty

Subgroup III – evaluates the correctness of the answer of subgroups I and II and makes its corrections.

**Unusual situational tasks:**

1. A 17-year-old patient turned to the doctor with complaints about the absence of menstruation for 6 months. From the anamnesis: the first menstruation at the age of 12, the first year the cycle was regular 4-5 after 26 days. In recent years, it increased to 35-45 days, became irregular. The weight gain was 18 kg. Hair appeared in the area of the mammary glands, along the white line, in the groin area. Sex life is regular from the age of 16. During bimanual examination, it was established: the cervix is conical in shape, 3.0 cm long, the body of the uterus is pear-shaped, 48x36x30mm, painless. The ovaries are palpated on both sides, slightly enlarged, painless. Mucous secretions are insignificant.

**Task:** establish a preliminary diagnosis? Driving tactics?

**Answer:** Stein-Leventhal syndrome. Additional examinations: testosterone, DEA-sulfate, 17-KS, glucose tolerance test. A low-calorie diet for weight stabilization. COCs with an antiandrogen component, for example Diane-35.

2. A 16-year-old female patient consulted a family doctor. During the year, he has irregular sexual relations. He has dyskinesia of the gall bladder. Insists on the installation of the Mirena intrauterine contraceptive, insisting that she has contraindications to oral contraceptives.

**Tasks:** 1. Is it appropriate to use an intrauterine spiral for the purpose of contraception in this case?

**Answer:**

Women who have not given birth and are planning to give birth - it is not recommended to use IUDs. It is necessary to choose other methods of contraception.

**Non-typical test tasks:**

1. A 13-year-old girl has bruises of various sizes and colors on her skin. She complains of dizziness, uterine bleeding. On examination, the condition is severe, the skin is pale, on auscultation of the heart, the heart rate is 140 bpm. Rough systolic murmur, blood pressure - 90/40 mm Hg. The liver and spleen are not enlarged. In the clinical blood analysis, Er. -  $1.8 \times 10^{12}/l$ , Hv - 50 g/l, CP - 0.7, ret - 4%, platelets

-  $20 \times 10^9/l$ , L- $12 \times 10^9/l$ , e-2%, p-5%, c-75%, l-16%, m-2%, SZE-15 mm/h. Hematocrit -0.25. What determines the severity of the patient's condition?

- A. Thrombocytopenia
- B. Acute blood loss
- C. Heart failure
- D. Symptoms of intoxication
- E. Decreased blood pressure

2. A 16-year-old girl has primary amenorrhea, lack of pubic hair growth, normal development of mammary glands, karyotype 46 XY, absence of uterus and vagina.

Diagnosis?

- A. Itsenko-Cushing syndrome
- B. Rokitansky-Küstner syndrome
- C. Syndrome of testicular feminization
- D. Sheehan's syndrome
- E. Stein-Leventhal syndrome

Correct answers: 1 - A, 2 - C.

**- Recommendations (instructions) regarding the performance of tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).**

The assessment of the development of secondary sexual characteristics is carried out according to the degree of their expressiveness, and they are guided by single designations: mammary glands - Ma, pubic hair - Pb, hair in the inguinal areas - Ah, menstruation - Me.

The degree of sexual development is determined by the formula  $Ma \cdot Pb \cdot Ax \cdot Me$ .

Stages of mammary gland development:

Ma0 – the mammary gland is not enlarged, the nipple is small, not pigmented.

Ma1 - swelling of the nipple circle, increase in its diameter, nipple pigmentation is not expressed.

Ma2 – mammary gland of a conical shape, the nipple circle is unpigmented, the nipple is not elevated.

Ma3 is a mature mammary gland with a rounded shape.

Stages of hair growth:

Pb0Ax0 – there is no hair on the pubis and in the groin areas.

Pb1Ax1 – a single straight hair.

Pb2Ax2 – the hair is thicker and longer, located in the central part of the above-mentioned areas.

Pb3Ax3 – the hair on the entire pubic labia triangle is thick and curly; the axillary area is completely covered with curly hair.

Expression of menstrual function:

Me0 - absence of menstruation.

Me1 - menarche during the examination period.

Me2 - irregular menstruation.

Me3 - regular menstruation.

When assessing sexual development, the definition of morphotypes is used. The morphogram is drawn according to growth indicators, chest girth, the sum of

the external dimensions of the pelvis, and age. Normally, the line on the morphogram grid is straight, deviations of 1.5 points are possible. Premature sexual development is characterized by macrosomic intersexual and uniformly retarded (infantile) morphotype.

Medical control over the course of the puberty process includes an assessment of the age at which pubertal changes appear.

9 - 10 years - growth of pelvic bones, rounding of the buttocks, slight lifting of the nipples of the mammary glands.

10-11 years old - appearance of pubic hair, raising of mammary glands.

11-12 years old - the appearance of hair under the armpits, increased growth, enlargement of the external genitalia.

12-13 years old – the development of the glandular tissue of the mammary glands, the pigmentation of the nipples, the appearance of menarche.

13-14 years old - active growth of hair under the armpits, menstruation may be irregular.

14-15 years old - change in the shape of the pelvis and buttocks.

15-16 years old – regular menstrual cycle, voice mutation.

16-17 years old - stop of skeletal growth, end of puberty.

The earliest limit of appearance of sexual characteristics is 8-8.5 years, menstruation is at 9 years. Earlier - indicates premature puberty. The absence of sexual characteristics before the age of 13 and menstruation before the age of 15 indicates a delay in puberty.

To unify the assessment of pubertal changes, most doctors use the classification of J. Tanner (1969) and S. Frasier (1980),

glands

And - and Ma0 Pb0 Ax0 Me0 Up to 9 years

And - b Ma1 Pb1 Ax1 Me0 9 - 10 years

II Ma2 Pb2 Ax1 Me0 10-11 years old

III Ma3 Pb3 Ax2 Menarche (Me1) 12 – 13 years

IV Ma4 Pb3 Ax3 Ovulation 14-15 years

V Acne, lowering of the tone of voice, growth arrest 15-17 years

To assess puberty and its disorders, hair growth on the skin of other locations is also determined: the upper lip, chin, chest, upper and lower half of the back and abdomen, shoulders, forearms, thighs, lower legs. The expression of hair in these places is evaluated on a 4-point scale:

1- separate, scattered hair;

2- moderate diffuse hair growth;

3- moderate continuous or scattered total hair growth;

4- intensive continuous hair growth.

The sum of the hairiness scores of the forearms and lower legs is the indifferent number (IR), and that of all the last parts of the body is the hormonal number (HR). In sum, they form a hirsut number (HR), which is on average equal to 4-5 points and should not exceed 10-12 points. A higher number of points of these indicators indicates hormonal disorders.



*Pathological course of menarche:*

- earlier than 11.5 years - accelerated puberty;
- appearance at the age of 15-16 - delayed puberty;
- excessive pathological bleeding from menarche;
- irregular menstrual bleeding (more often 12-16 days or long delays up to 45-60 days or more);
- AMC from the beginning of menarche;
- hyperpolymenorrhea

The pathogenesis of AMC PP can occur in two ways.

And an option. When the menstrual function is established, the secretion of gonadotropins is initially chaotic, uneven in time and quantity, gradually this process becomes cyclical. Adverse effects lead to disruption of the establishment of a cyclic physiological process: the instability of gonadotropin secretion remains, folliculogenesis and, as a result, steroidogenesis is disrupted, which causes the pathological development of the endometrium and its lack of transformation into the secretory stage and makes the process of its physiological rejection impossible. This becomes the starting moment of AMK PP. During puberty, a girl's body is extremely vulnerable to negative influences.

Option II. Infectious (primarily viral), somatic and genital diseases can lead to a violation of the sensitivity of the endometrium to the effects of hormones. Inflammatory processes are accompanied by a violation of microcirculation, which affects the receptivity of the endometrium. It is the pathological condition of the mucous membrane of the uterus that can cause AMC PP.

Diagnostics. Algorithm for carrying out diagnostic measures at AMK PP

The physical examination is carried out in order to compare the degree of physical and sexual maturation with age norms and taking into account psychological characteristics.

There are several types of psychological characteristics of patients with AMC PP:

hypoestrogenic – a fragile physique, lag in sexual development compared to peers and a desire to surpass others in everything (perfectionism);

normoestrogenic – harmonious physical and sexual development, tendency to anxiety-depressive mental disorders;

hyperestrogenic – disharmonious acceleration of sexual development and physical acceleration with delayed psychosomatic development.

Self-assessment of the amount of blood loss (icon) is a visual-analog method of estimating the amount of menstrual blood loss by the amount of blood on a sanitary pad (day and night), a tampon, and by secretions in the toilet (subjective method). Degrees of blood loss are presented in the icon (unified clinical protocol of medical care "Abnormal uterine bleeding", approved by the order of the Ministry of Health of Ukraine dated 04.13.2016 No. 353) (Table 1).

Таблиця 1. Піктограма самооцінки обсягу крововтрати під час менструації

Гігієнічна прокладка	Тип	Обсяг, мл	Тампон	Тип	Обсяг, мл	Виділення в туалеті	Тип	Обсяг, мл
	Денна	1		Легкий	0,25		Незначні	1
				Середній	0,5			
	Нічна	1		Тяжкий	1,0			
	Денна	2		Легкий	0,5		Помірні	3
				Середній	1,0			
	Нічна	3		Тяжкий	1,5			
	Денна	3		Легкий	1,0		Виражені	5
				Середній	1,5			
	Нічна	6		Тяжкий	3			
	Денна	4		Легкий	3,0		Виражені	5
				Середній	4,0			
	Нічна	10		Тяжкий	8,0			
				Надважкий	12,0			

In the pubertal age, the normal parameters of MC are: the interval is 22-38 days, the duration of bleeding is  $6 \pm 2$  days. In 80% of teenage girls, menstruation immediately becomes regular, the majority of MCs are anovulatory. In a third of girls in the first 3-5 years after menarche, MC is characterized by a deficiency of the corpus luteum. The first ovulation is the culminating period of puberty, but does not mean puberty. *Laboratory diagnosis of AMC PP* includes a general blood test (platelets and reticulocytes), hemostasiogram (activated partial thrombus platelet time, prothrombin index, fibrinogen level, blood clotting time, platelet count, platelet aggregation, soluble fibrin monomer complexes, activated recalcification time), biochemical blood analysis, determination of  $\beta$ -chorionic gonadotropin in the blood serum of sexually active adolescents, bacterioscopic examination, polymerase chain reaction, diagnosis of infectious diseases of the genital tract, examination for helminthiasis.

In the case of AMC PP, an ultrasound of the pelvic organs (OMT), thyroid gland, additionally - mammary glands and organs of the abdominal cavity should be performed.

The shape, size and structure of the uterus, thickness (d), uniformity and echogenicity of the endometrium, the structure, dimensions, volume and thickness of the ovarian capsule are determined by the method of OMT ultrasound (Table 2). The presence of pregnancy must be excluded.

In adolescence, with AMC PP, the ultrasound picture of OMT is characterized by the following signs:

- *uterus* – the size in most cases corresponds to the age norm, may be slightly increased, the structure of the myometrium is mostly homogeneous, sometimes with slightly reduced echogenicity;
- *endometrium* – the thickness is increased, its size does not coincide with the day of MC: on the 8th-10th day – it is 8-9 mm, on the 16th-18th –  $\geq 12$  mm;  $d = 6-7$  mm with continued bleeding indicates the inferiority of the receptor apparatus, the immaturity of the regulatory mechanisms of menstrual function;
- *ovaries* - their sizes are normal or enlarged; the structure may include a follicular cyst (echonegative uniform inclusion with a diameter  $> 25-30$  mm); have a persistent follicle (a follicle with a diameter  $> 18-20$  mm is present during bleeding or the day before, there may also be several follicles of a smaller diameter); be polycystic (several follicles  $\geq 8$  mm in diameter) or multifollicular (follicles 3-5 to 7-8 mm in diameter).

#### Treatment of AMC PP

Treatment measures are carried out in several stages: on the 1st stage – stopping of bleeding, anti-anemic therapy, correction of mental status; on the 2nd – anti-relapse therapy (correction of MC and endometrial condition).

The therapy of the first choice is inhibitors of the transition of plasminogen to plasmin:

- tranexamic acid: intravenous 15 mg/kg during the first hour of therapy, then drip 1 g/h for 8 h; the total dose should not exceed 6 g. Possible prophylactic use *per os* 1 g 4 times a day from the 1st to the 4th day of menstrual bleeding (the World Federation of Hemophilia recommends prescribing Tranexam 1-2 days before the start of menstruation to all girls with hemophilia disorders );
- aminomethylbenzoic acid;
- aminocaproic acid.

Nonsteroidal anti-inflammatory drugs (NSAIDs) regulate the metabolism of arachidonic acid by inhibiting the activity of cyclooxygenase, and reduce the production of prostaglandins and thromboxanes. Diclofenac 50 mg 1-2 times a day or mefenamic acid 200 mg 4 times a day are usually used. NSAIDs should be prescribed no earlier than 4-5 days after the start of hemostatic therapy using Tranexam.

If the bleeding lasts more than 10 days or if AMC occurs against the background of respiratory or somatic inflammatory diseases, the appointment of antibacterial agents is the first-line therapy. It is carried out by parenteral antibiotics of a wide spectrum of action.

Symptomatic treatment for AMC PP includes sedatives, calcium preparations, vitamin therapy, hepatoprotectors, phyto- and homeopathic therapy.

A clinical feature of adolescence can be the formation of borderline states between normality and pathology in female patients. Functional disorders of the digestive tract accompanied by impaired absorption of necessary trace elements, vitamins and nutrients occur more often. One of these disorders is chlorosis - a hidden iron deficiency that precedes iron deficiency anemia (IDA). Therefore, teenage girls are especially vulnerable to excessive blood loss during menstruation.

With AMC PP, ZDA is formed very quickly. In addition, post-hemorrhagic anemia also determines the severity of the child's general condition. The norm of hemoglobin (Hb) in teenagers is 130 g/l. Degrees of anemia: mild – Hb level 110-119 g/l, medium – Hb level 80-109 g/l, severe – Hb level < 80 g/l. Recurrences of bleeding lead to UTI, which significantly affects the development of the function of the reproductive system. Hemic hypoxia, which occurs in this disease, is one of the causes of chaotic pulsation of gonadotropin -releasing hormone and, as a result, unstable secretion of gonadotropins, which makes it impossible to establish biphasic MC.

With ZDA on the background of AMC PP, the primary task is to stop the bleeding. Oral preparations of ferrous iron are prescribed for 3 months under the control of a general blood test 21 days after the start of treatment, then monthly. In case of menstrual bleeding or polymenorrhea, significant iron losses (decrease in Hb and ferritin levels), ferrous iron preparations are also prescribed for 3 months. According to the unified clinical protocol of medical care "Iron deficiency anemia" (order of the Ministry of Health of Ukraine dated November 2, 2015 No. 709), dietary supplements, multivitamin and mineral complexes are not used for the treatment of ASD.

In case of disorders of MC, especially AMK, to correct the hormonal balance and carry out symptomatic hemostatic therapy in puberty, preference should be given to *phytotherapeutics means* (Mastodinon<sup>®</sup>). Phytotherapy can be both a sufficient independent remedy and can be combined with symptomatic and hormonal treatment.

Mastodinon is an effective remedy for the treatment of MC disorders. The use of the drug allows you to restore the homeostasis of sex hormones: prolactin, estrogens and progesterone, the level of gonadotropins; to normalize the psycho-emotional state; reduce manifestations of inflammation of the genital organs; suppress hyperproliferative processes.

With the growth of the mammary glands against the background of hormonal imbalance, girls suffer from mastodynia and mastalgia, which is often observed in AMC PP. Mastodinon helps to reduce and eliminate these pathological manifestations.

Criteria for the appointment of hormonal therapy for AMC PP :

- lack of effect from symptomatic treatment;
- duration and intensity of bleeding (with the development of secondary anemia);
- thickness of the endometrium (according to ultrasound data): tendency to hyperplasia ( $d \geq 10-12$  mm) or hypoplasia of the endometrium ( $d < 7$  mm).

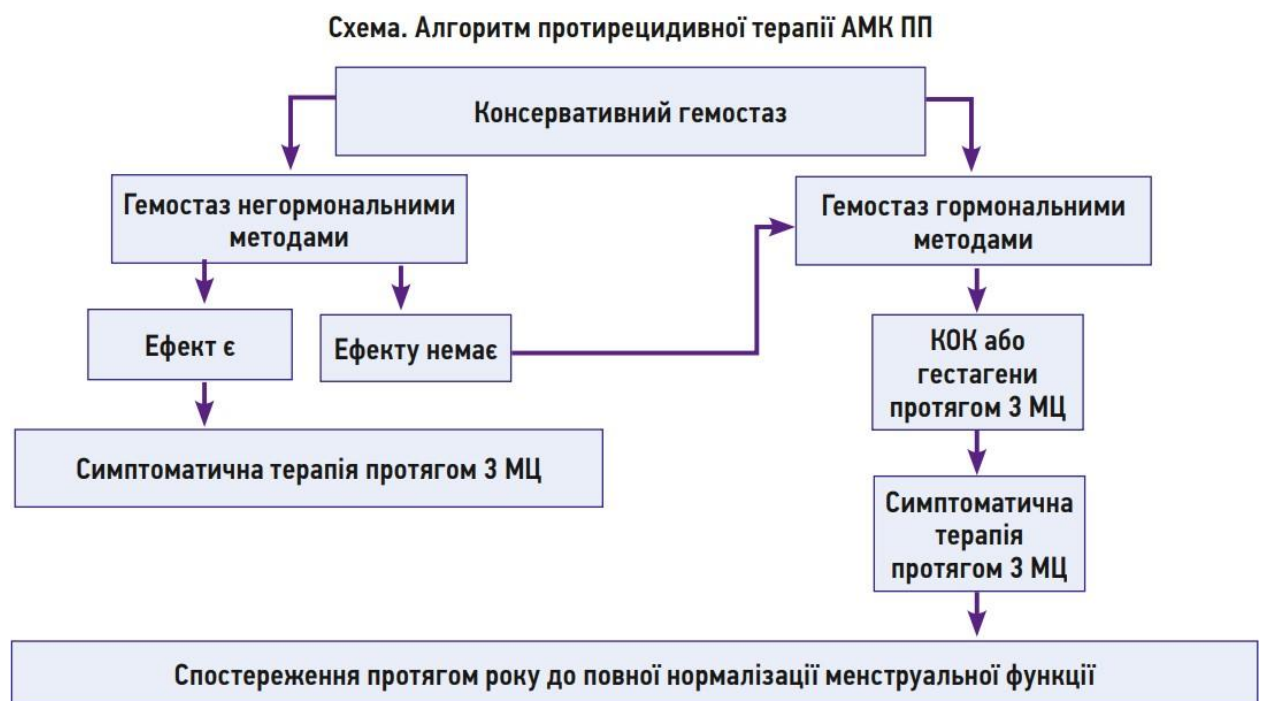
For hormonal hemostasis, only monophasic combined oral contraceptives (COC) or progestagen drugs are used.

Among the monophasic COCs, which are advisable to use when the thickness of the endometrium is < 8 mm, those containing ethinyl estradiol (hemostatic effect) and progestagen (stabilization of the stroma and the basal layer of the endometrium) are effective. The most typical scheme of therapy: 1st day – 1 tablet. 4 times a day, 2-

4th - 1 tablet. 3 times a day, 5-6 days - 1 tablet. 2 times a day, in the future - 1 tablet. 1 time a day. The duration of treatment from the first COC administration is 21 days. With bleeding on the background of hyperplastic endometrium, it is advisable to use oral progestins (norethisterone). The most typical scheme of therapy: 1st day – 5 mg 4 times a day, 2-4th – 5 mg 3 times a day, 5-20th – 5 mg 2 times a day. With a normal thickness of the endometrium (9-12 mm), it is possible to use progestogens for the purpose of transformation of the uterine mucosa and its detachment. Prescribe dydrogesterone or sublingual micronized progesterone for 10-14 days.

Surgical treatment is indicated for life-threatening profuse uterine bleeding, severe secondary anemia ( $Hb \leq 70$  g/l, hematocrit up to 20%), and suspected pathological changes in the structure of the endometrium (polyps). The method of dilation and curettage (therapeutic and diagnostic scraping of the walls of the uterine cavity) is performed with the written consent of the child's parents or guardians or ex consilium.

First-line drugs in the treatment of AMC PP are a combination of antifibrinolytics and broad-spectrum phytotherapeutic agents. Against the background of the use of phytotherapy, the volume and duration of hormone therapy for AMC PP are significantly reduced (scheme).



*Criteria for choosing anti-relapse phytotherapy for AMC PP:*

- gynecological age less than 1 year;
- chronic AMC PP;
- sufficient effect when stopping bleeding with symptomatic means;
- categorical refusal to use hormonal drugs.

*Indications for the use of anti-relapse phytotherapy in AMC PP:* follicle persistence, ovarian follicular cysts, endometrial hyperplasia, accelerated thelarche, hyperprolactinemia, premenstrual syndrome, mastodynia - Mastodinon is prescribed

for 2-3 MCs. After that, Cyclodinon<sup>®</sup> is used for 2-3 cycles to establish the rhythm of hormone secretion, which is characteristic of biphasic MC.

Cyclodinone is a monocomponent herbal remedy from the dry extract of the fruits of the common barberry (*Vitex sacred*), which contains the active substance BNO 1095, devoid of unwanted effects. The property of Cyclodinon to restore and maintain the luteal phase of MC allows its use in the anti-relapse therapy of AMC PP and disorders of menstrual function during puberty with functional hyperprolactinemia.

With hypoplasia of the endometrium, hypoestrogenic conditions accompanied by bleeding, it is advisable to use mulimene, with hypoplasia of the endometrium against the background of the inflammatory process (chronic endometritis) - gynecochel.

For the prevention of heavy menstrual bleeding and for the purpose of the formation of biphasic MC, preference should be given to phytotherapy, remediation of infection foci, treatment of anemia, as well as general health measures.

Adolescents who have had menstrual function for less than 1 year are given hormone therapy only for vital indications in case of inefficiency of phyto- and symptomatic therapy.

*Criteria for choosing anti-relapse hormone therapy for AMC PP:* insufficient effectiveness of symptomatic and phytotherapy, recurrence of bleeding, SDA, gynecological age of more than 1 year.

*Anti-relapse therapy of AMC PP with the help of COC.* After stopping AMK with the help of monophasic COCs, it is necessary to continue the appointment of these drugs for three MCs. In the first cycle of COC cancellation, a phytotherapeutic agent is used (from the 1st day of MC for two MCs) and progestogens (from the 14th day of MC for 10 days). The criterion for prescribing these drugs is the thickness of the endometrium.

*Precautions when using COCs.* The decision to prescribe COCs both for the purpose of hemostasis and prevention of bleeding recurrences should be carefully considered. All contraindications to the use of these drugs should be taken into account, the rules of their administration should be clearly explained, the importance of self-control while taking COCs should be emphasized, the purpose of prescribing hormonal drugs should be explained. It is necessary to inform the patient (parents, guardian) about the duration of the treatment, which should be limited to three courses with mandatory ultrasound control of the OMT and clarification of the effectiveness of the treatment.

The use of COCs in adolescence without prior determination of the level of gonadotropins (FSH and LH) threatens the development of a long-term syndrome of hyperinhibition of the hypothalamic-pituitary chain, even with the impossibility of creating biphasic MC in the future.

In order to prevent AMC PP, progestogens and progestogens in adolescence are recommended to be prescribed for endometrium  $d > 8$  mm; with a tendency to endometrial hyperplasia ( $d > 12$  mm), the use of progestogens (norethisterone, linestrenol) is more appropriate.

Anti-relapse therapy of AMC PP is carried out with progestogens (for example, norethisterone 5 mg 2 times a day from the 14th day of MC for 10 days for three MCs) and progestogens (dydrogesterone or micronized progesterone sublingual in a minimal therapeutic dose from the 14th day of MC for 10 days for 3 -6 MC).

*Precautions* when using progestogens and progestogens: it is necessary to control the thickness of the endometrium (with the help of ultrasound), changes in the course of MC and the duration of menstrual bleeding. After the cessation of hormone therapy, it is more reliable in the prevention of relapses of MC disorders by prescribing phytotherapeutic agents for two cycles. Treatment with progestogens is stopped gradually: first, the duration is reduced from 10 to 5 days, then the dose of the drug is reduced to the minimum therapeutic level. In the last MC, in which progestogens are prescribed, hormone therapy should be combined with one of the phytotherapeutic agents (Mastodinon, Cyclodinon).

In case of ineffectiveness of the treatment, i.e. recurrence of bleeding, an additional clinical examination should be carried out and assistance should be resumed taking into account the results obtained. It is necessary to approach the appointment of hormonal drugs in the pubertal period with instability of regulatory mechanisms with great caution. The wrong choice of these medicines can cause profound negative changes in metabolism and lead to the development of metabolic disorders, vegetative-vascular dysfunction, diseases of the mammary glands (fibrocystic disease), obesity, virilization, disorders of the function of the gastrointestinal tract and hepatobiliary system, disorders of the coagulation system blood, exacerbation of extragenital diseases. Sometimes, when using hormones, the dependence of cell function on their intake is formed, which is similar to that of narcotics. In the absence of drugs, the cells do not function, which leads to hyperinhibition syndrome, secondary amenorrhea, stopping the development of the reproductive system.

*Criteria for the effectiveness of treatment of AMC PP:* establishment of a regular biphasic MC, the duration of which corresponds to the norm; absence of anemia, as well as recurrence of bleeding during the year.

Establishing the correct management tactics for patients with AMC PP depends on the correct diagnosis of the causes of bleeding, the choice of the direction of treatment, taking into account all possible negative effects. The main mistake in the management of such patients is the appointment of medical measures without a preliminary examination, and in the future - the lack of control over the results of its use and effectiveness. This especially applies to hormonal drugs.

***Family planning for different categories of the population and according to periods of life (Order No. 59 dated 21.02.2014)***

<b>Position protocol</b>	<b>Justification</b>	<b>Necessary actions</b>
1. Methods of contraception for	Teenage pregnancy is always unplanned. First	<u>Mandatory:</u>

<p>teenagers and young people.</p>	<p>of all, teenage pregnancy carries a higher health risk, the younger they are (it is especially significant for 13-16-year-olds).</p>	<ol style="list-style-type: none"> <li>1. Conduct counseling on healthy lifestyle, sex education, prevention of unplanned pregnancy and STDs.</li> <li>2. Start counseling about contraceptive methods with a conversation about the most reliable method of avoiding pregnancy - <i>the absence of sexual contact</i>.</li> <li>3. Offer methods of contraception: <ul style="list-style-type: none"> <li><b>Condom:</b> <ul style="list-style-type: none"> <li>- protects against STIs/HIV;</li> <li>- use is simple and without a visit to the doctor;</li> <li>- has no side effects.</li> </ul> </li> <li><b>COOK:</b> <ul style="list-style-type: none"> <li>- for young women who have a regular sex life and a permanent sexual partner;</li> <li>- does not protect against STIs/HIV.</li> </ul> </li> <li><b>Double method</b> (simultaneous use of COCs with a condom).</li> <li><b>VMC:</b> <ul style="list-style-type: none"> <li>- do not offer to teenagers and young women who have not given birth and do not have one sexual partner;</li> <li>- does not protect against STIs/HIV.</li> </ul> </li> <li><b>Fertility recognition methods:</b> <ul style="list-style-type: none"> <li>- can be offered to disciplined girls with a regular menstrual cycle who are highly motivated to use this method and have one partner;</li> <li>- does not protect against STIs/HIV.</li> </ul> </li> <li><b>Emergency contraception:</b> <ul style="list-style-type: none"> <li>- high efficiency;</li> <li>- cannot be used as regular contraception, only for episodic use with irregular sexual life;</li> <li>- does not protect against STIs/HIV.</li> </ul> </li> </ul> </li> </ol>
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Back in the 2000s, a third of the world's countries introduced HPV vaccination into the national vaccination schedule. However, there is great unevenness in the application of these programs. Among high-income countries, 70% of adolescents are vaccinated against papilloma. With an average profit of 20%. And only 3% of



boys and girls are vaccinated in low-income countries. Traditionally, the reason lies in financial and social problems.

Types of papillomavirus vaccines:

- **"Cervarix"** is a recombinant vaccine made from highly purified non-infectious virus-like particles (HPV) of the main capsid protein (L1) of the HPV type 16 and 18 envelope;
- **"Gardasil-4"** is an adjuvant non-infectious recombinant quadrivalent vaccine that protects against HPV types 6, 11, 16 and 18;
- **"Gardasil-9"** is an adjuvant non-infectious nine-valent recombinant vaccine against the human papilloma virus (protects against 9 types: 6, 11, 16, 18, 31, 33, 45, 52, 58).

Vaccination with these vaccines prevents the following diseases:

- cervical cancer. If a woman was not infected with HPV and was vaccinated before the age of 25, the effectiveness of protection is 98-100%;
- precancerous conditions and malignant neoplasms of the vulva and vagina;
- anal cancer in women and men;
- genital warts, precancerous or dysplastic conditions;
- cervical intraepithelial neoplasia of the vulva, vagina, anal canal of various degrees, etc.

However, we remember that the mentioned HPV vaccines protect against a maximum of 9 types of HPV, namely, 15 types are highly oncogenic.

Vaccination against HPV

In order to achieve the greatest effect, vaccination against the papillomavirus should be done before the start of sexual life. Studies prove that immunity lasts for about 10 years. Ideally, during this time, a person finds a permanent sexual partner and creates a family. So, after that, even with reduced immunity, the risk of HPV infection will be minimal.

In general, vaccination against the human papilloma virus is recommended for both girls and boys aged 9 to 45 years ("Cervarix" is used only up to 25).

Vaccination against HPV is carried out with the help of an intramuscular injection in the shoulder area in two or three doses for six months.

Revaccination (repeated papilloma vaccine) is not done. Vaccination against HPV is carried out ONLY after a preliminary examination by a doctor. It is not necessary to take a blood test or be tested for HPV before vaccination.

As you can see, it is possible to protect yourself from HPV infection. Remember that the so-called "HPV vaccination" or "HPV vaccination" is preventive, not curative. Vaccination will help to prevent infection of the body with certain types of virus, but, unfortunately, it will not stop those processes that have already started.

### **Algorithm for performing practical skills.**

#### *Bimanual (vaginal) examination:*

- 1) say hello to the patient;
- 2) identify the patient (name, age);
- 3) to inform the patient about the necessity of conducting the study;

- 4) explain to the patient how the study is conducted;
- 5) obtain permission to conduct research;
- 6) wash hands;
- 7) put on inspection gloves;
- 8) with the first and second fingers of the left (right) hand, spread the labia majora, place the middle finger of the "dominant" hand at the level of the posterior adhesion, gently press on it to open the entrance to the vagina;
- 9) carefully and slowly insert the middle finger, then the index finger into the vagina along the back wall to the vault and cervix, bring the fourth and fifth fingers to the palm, bring the thumb to the top;
- 10) determine the length of the vaginal part of the cervix in centimeters;
- 11) determine the consistency of the cervix (dense, soft);
- 12) determine the patency of the external os of the cervical canal (closed, a fingertip passes through);
- 13) to assess the painfulness of the excursion of the cervix;
- 14) the second palm should be carefully placed on the stomach (above the symphysis) and moderately pressed to determine the bottom of the uterine body;
- 15) take the body of the uterus between two hands and determine:
  - the position of the uterus relative to the cervix (anteflexio, retroflexio);
  - the size of the uterus (normal, reduced, increased);
  - the consistency of the body of the uterus (tight-elastic, soft, compacted);
  - mobility of the uterine body (relatively mobile, limited mobility);
  - sensitivity during palpation (painful, painless);
- 16) place your fingers in the bottom of the right lateral vault and, using both hands, palpate the right vaginal vault and right appendages of the uterus, determine their size, mobility and pain;
- 17) place your fingers in the bottom of the left lateral vault and, using both hands, palpate the left vaginal vault and the left appendages of the uterus, determine their size, mobility and painfulness;
- 18) determine the capacity of the vaginal vaults;
- 19) inform the patient about the results of the study;
- 20) thank the patient;
- 21) remove examination gloves;
- 22) wash hands

*Clinical examination of mammary glands:*

- 1) say hello to the patient;
- 2) identify the patient (name, age);
- 3) to inform the patient about the necessity of conducting the study;
- 4) explain to the patient how the study is conducted;
- 5) obtain permission to conduct research;
- 6) wash hands;
- 7) put on inspection gloves;
- 8) examine the mammary glands, evaluate their shape, skin color, nipples, areas around the nipple (asymmetry, retractions, etc.);

- 9) examine the tissue of the mammary glands clockwise or in quadrants and determine its density, homogeneity, sensitivity, presence/absence of bulky neoplasms;
- 10) when a neoplasm is detected, determine its shape, size, consistency, limits of formation, mobility, relationship with breast tissue, pain;
- 11) to palpate lymph nodes in the supraclavicular, subclavian and axillary areas;
- 12) determine the presence of pathological secretions from the mammary glands;
- 13) inform the patient about the results of the study;
- 14) thank the patient;
- 15) remove examination gloves;
- 16) wash hands

- **Requirements for work results, including to registration**

- Conduct puberty counseling for girls and teenagers.
- Assess the patient.
- Choose examination, management tactics and treatment for girls with menstrual disorders.
- Conduct contraceptive counseling for teenagers.
- Oral report about the thematic patient.
- Analysis and discussion of the results of the patient's examination.
- Multimedia presentation on the topic of the class (literature review using modern sources; video films, etc.).

- **Control materials for the final stage of the lesson: problems, tasks, tests, etc.**

**Unusual situational tasks:**

1. A 13-year-old patient turned to a pediatric gynecologist with complaints of pain in the lower abdomen that appeared approximately 6 months ago. The pains recur every month and last 2-3 days. Two months ago, a patient with an attack of pain was hospitalized in the surgical department with suspicion of acute appendicitis, the diagnosis of which was not confirmed later. She grew and developed normally. History: childhood infections, acute pyelonephritis. Ma2-3Ax2P2Me0. Gynecological status: the external genitals are developed correctly, when the labia are parted, a tense virgin bluish membrane is revealed. During ultrasound, a normal-sized uterus and a fluid formation of 110x70 mm (hematocolpos) located below it are determined.

Previous diagnosis?

Driving tactics?

Answer: Hymen atresia. Hematocolpos. Surgical treatment is indicated - hymen dissection.

2. A 15-year-old patient turned to a pediatric gynecologist with complaints of spasm-like pains in the lower abdomen, sacrum, headache, nausea, vomiting, diarrhea, which begin simultaneously with the onset of menstrual bleeding and last the first two days of menstruation. The patient is unable to work these days. It grew and developed normally. History: whooping cough at the age of six. Menstruation since the age of 13, the first 1.5 years are not regular, recently 4-5 days after 28, moderate,

painful. Ma3Ax2P2Me03. Gynecological status: the external genitalia are properly developed, pubic hair is female-type, the hymen is intact, during recto-abdominal examination: the size of the uterus corresponds to the age, the appendages on both sides are without pathological changes.

Previous diagnosis?

Driving tactics?

Answer: Algodysmenorrhea. Additional examination to rule out anatomical causes of pain during menstruation. Symptomatic therapy with prostaglandin inhibitors.

### **Test tasks STEP-2:**

1. (2019) A 32-year-old woman turned to a gynecologist with complaints of chronic pelvic pain that worsens during menstruation, dyspareunia, bleeding before and after menstruation. Last period 3 weeks later. When examined in mirrors: on the cervix, there are 2 cysts with a diameter of 3 and 5 mm, blue-purple in color, from which a dark brown liquid is secreted. During bimanual examination: the body of the uterus is spherical in shape, enlarged up to 6 weeks of pregnancy, painful during palpation. Appendages on both sides without features. The doctor was informed that the birth of a child is not planned in the near future. What is the most appropriate treatment strategy for this patient?

- A. Controlled ovarian hyperstimulation
- B. Appointment of combined oral contraceptives \*
- S. Appointment of androgens
- D. \_ Surgical intervention
- E. Appointment of gonadotropin-releasing hormone antagonists

2. (2008) A 26-year-old woman who gave birth 7 months ago has been troubled by nausea, vomiting in the morning, and drowsiness for the past two weeks. She is breastfeeding, there was no menstruation. She was not warned against pregnancy. Which of the methods should be used to clarify the diagnosis?

- A. Ultrasound examination \*
- B. Ro -graphy of the pelvic organs
- C. Palpation of the mammary glands and milk ejection
- D. \_ Two-handed vaginal examination
- E. Research using mirrors

### **4. Summing up .**

**Current control:** oral survey, testing, assessment of performance of practical skills, solution of situational clinical tasks, assessment of activity in class, etc.

***The structure of the current evaluation in the practical lesson :***

1. Evaluation of theoretical knowledge on the subject of the lesson:
  - methods: survey, solving a situational clinical problem;

- the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2
- .
- 2. Evaluation of practical skills and manipulations on the subject of the lesson:
  - methods: assessment of correct performance of practical skills;
  - the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2
  - .
- 3. Evaluation of work with a patient on the subject of the lesson:
  - methods: assessment of: a) communication skills of communicating with the patient, b) the correctness of prescribing and evaluating laboratory and instrumental studies, c) compliance with the differential diagnosis algorithm, d) substantiation of the clinical diagnosis, e) drawing up a treatment plan;
  - the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2
  - .

***Current assessment criteria for practical training:***

"5"	Graduates of higher education who are fluent in the material, take an active part in discussing and solving a situational clinical problem, confidently demonstrate practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data, express their opinion on the subject of the lesson, demonstrate clinical thinking.
"4"	Students of higher education have a good command of the material, take part in the discussion and solution of a situational clinical problem, demonstrate practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data with some errors, express their opinion on the subject of the lesson, demonstrate clinical thinking.
"3"	Graduates of higher education do not have sufficient knowledge of the material, take part in the discussion and solution of the situational clinical problem without confidence, demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with significant errors.
"2"	Students of higher education do not master the material, do not take part in the discussion and solution of the situational clinical problem, do not demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data.

**5. List of recommended literature.**

*Basic:*

1. Gladchuk I.Z. Obstetrics: student`s book / Gladchuk I.Z., Ancheva I.A. . – Vinnitsia: Nova Knyha, 2021. – 288 p.
2. Obstetrics and Gynecology: in 2 volumes. Volume 1. Obstetrics: textbook / V.I. Gryshchenko, M.O. Shcherbina, B.M. Ventskivskyi et al. (2nd edition). – «Medicina», 2018. – 392 p.
3. Hiralal Konar DC Dutta's Textbook of Obstetrics (9th Ed.) / Hiralal Konar (Ed.). – Jp Medical Ltd, 2018. – 700 p.

4. F. Gary Cunningham Williams Obstetrics (26th Edition) / F. Gary Cunningham, Kenneth Leveno, Jodi Dashe, Barbara Hoffman, Catherine Spong, Brian Casey. – McGraw Hill / Medical, 2022. – 1328 p.
5. Jeremy Oats, Suzanne Abraham Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology (10th Ed) / Jeremy Oats, Suzanne Abraham. – Elsevier, 2016. – 384 p.

*Additional:*

1. The PROMPT-CIPP Editorial Team. (2019). PROMPT-CIPP Course Participant's Handbook: Care of the Critically Ill Pregnant or Postpartum Woman (Critical Care Prompt Practical Obstetric Multi-professional Training). – Cambridge University Press; 1st edition, 2019. – 136 p.
2. L. A. Magee The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. / L. A. Magee, P. Dadelszen, W. Stones, M. Mathai (Eds). – The Global Library of Women's Medicine, 2016. – 456 p.
3. Edwin Chandraran Handbook of CTG Interpretation: From Patterns to Physiology / Edwin Chandraran. – Cambridge University Press; 1st edition, 2017. – 256 p.
4. Louise C. Kenny, Jenny E. Myers Obstetrics by Ten Teachers (20th ed) / Louise C. Kenny, Jenny E. Myers. – CRC Press, 2017. – 342 p.
5. J. Studd Current Progress in Obstetrics and Gynaecology. Vol 4. / J. Studd, Seang Lin Tan, F. Chervenak. – TreeLife Media (A Div of Kothari Medical), 2017. – 419 p.
6. J. Studd Current Progress in Obstetrics and Gynaecology. Vol 5. / J. Studd, Seang Lin Tan, F. Chervenak. – TreeLife Media (A Div of Kothari Medical), 2019. – 403 p.
7. J. Studd Current Progress in Obstetrics and Gynaecology. Vol 6. / J. Studd, Seang Lin Tan, F. Chervenak. – TreeLife Media (A Div of Kothari Medical), 2022. – 309 p.
8. Mark Landon Obstetrics: Normal and Problem Pregnancies, 8th Edition / Mark Landon, Henry Galan, Eric Jauniaux, Deborah Driscoll, Vincenzo Berghella, William Grobman, et al. – Elsevier, 2021. – 1280 pp.
9. Mark B. Landon Gabbe's Obstetrics Essentials: Normal & Problem Pregnancies, 1st Edition / Mark B. Landon, Deborah A. Driscoll, Eric R. M. Jauniaux, Henry L. Galan, William A. Grobman, Vincenzo Berghella. – Elsevier, 2019. – 496 pp.
10. Ian M. Symonds, Sabaratnam Arulkumaran Essential Obstetrics and Gynaecology, 6th Edition / Ian M. Symonds, Sabaratnam Arulkumaran. – Elsevier, 2020. – 480 pp.
11. Myra J. Wick Mayo Clinic Guide to a Healthy Pregnancy, 2nd Edition / Myra J. Wick. – Mayo Clinic Press, 2018. – 520 p.

### ***13. Internet sources:***

1. <https://www.cochrane.org/> - Cochrane
2. <https://www.acog.org/> - The American College of Obstetricians and Gynecologists
3. <https://www.uptodate.com> – UpToDate
4. <https://online.lexi.com/> - Wulters Kluwer Health
5. <https://www.ncbi.nlm.nih.gov/> - National Center for Biotechnology Information
6. <https://pubmed.ncbi.nlm.nih.gov/> - National Library of Medicine
7. <https://www.thelancet.com/> - The Lancet
8. <https://www.rcog.org.uk/> - Royal College of Obstetricians & Gynaecologists
9. <https://www.npwh.org/> - Nurse practitioners in women's health
10. <http://moz.gov.ua>
11. [www.ama-assn.org](http://www.ama-assn.org) – [American Medical Association](http://www.ama-assn.org)
12. [www.who.int](http://www.who.int)
13. [www.dec.gov.ua/mtd/home/](http://www.dec.gov.ua/mtd/home/)
14. <http://bma.org.uk>
15. [www.gmc-uk.org](http://www.gmc-uk.org) - *General Medical Council (GMC)*
16. [www.bundesaerztekammer.de](http://www.bundesaerztekammer.de)
17. [www.euro.who.int](http://www.euro.who.int)