

TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV
Educational scientific center «Institute of biology and medicine»
Department of Fundamental Medicine

«APPROVED BY»

Deputy director
on scientific and pedagogical

work
Olena KHARCHENKO

«20» 06 2023 ya

EDUCATIONAL PROGRAM
Propaedeutics of pediatrics (OC23)

for students

branch of knowledge 22 «Healthcare»

specialty 222 «Medicine»

educational level «Master»

educational program «Medicine»

type of discipline obligatory

Form of study	<u>daytime</u>
The academic year	<u>2023/2024</u>
Semester	<u>5, 6</u>
Number of credits ECTS	<u>5</u>
Language of teaching, learning and evaluation	<u>English</u>
Form of final control	<u>6 semester – exam</u>

Teachers: doc. Budnik T.V., doc. Gorobec A.O.

Prolonged: on 20__/20__ year st. _____ (_____) «__» 20__ year
(signature, name, date)

on 20__/20__ year st. _____ (_____) «__» 20__ year
(signature, name, date)

Kyiv – 2023

Developers

Budnik T.V., MD, Assistant Professor Department of Fundamental Medicine

"I AGREE"

Head of the fundamental medicine department

 (Viktoriia KHOPERIIA)
(Signature)

Protocol № 12 «12» 06 2023y.

Approved by scientific and methodical commission

NSC "Institute of Biology and Medicine"

Taras Shevchenko National University of Kyiv

Protocol «6» 20-06 2023 year № 6

Head of scientific and methodical commission  (Nataliia SKRYPNYK)

«20» 06 2023 year

1. The purpose of the discipline - study the patterns of physical and psychomotor development of children of different ages, anatomical and physiological features and semiotics of the defeat of different organs and systems of the child's organism, principles of rational feeding, and nutrition of children of different ages.

2. Preliminary requirements for mastering or choosing a discipline:

1. Successful mastering of the disciplines "Histology, cytology, and embryology", "Human anatomy", "Medical biology", "Medical chemistry", "Bioorganic and biological chemistry", "Medical and biological physics", "Microbiology, virology and immunology", «Pathophysiology», «Pharmacology and medical prescription »

2. The ability to independently apply knowledge of medical biology, medical and biological physics, human physiology and anatomy, histology of cytology and embryology, biological and bioorganic chemistry, and other educational disciplines for the solution of specific scientific and practical problems; work with scientific and methodological literature.

3. Owning elementary skills in system analysis.

3. Annotation of the discipline:

The educational discipline "Propaedeutics of pediatric" is a part of the cycle of training specialists of educational level "Master" for the educational program "Medicine". "Propaedeutics of Pediatrics" is an obligatory discipline that studies the patterns of physical and psychomotor development of children of all ages, anatomical and physiological features and semiotics of the defeat of various organs and systems of the child's body, principles of rational feeding and nutrition of children of all ages.

4. Tasks (training goals):

1. to form a clear view of pediatrics as a science;
2. to study the age-old anatomical and physiological features of growth, development, and formation of all organs and systems of the child's body;
3. to form a clear idea of the periods of childhood;
4. to learn the methods of examination, palpation, percussion on, and auscultation of the internal organs and systems of the child's body;
5. to master the scope of examination of patients with childhood diseases and be able to interpret the data obtained from the objective and additional examination of sick children;
6. to form a clear idea about the peculiarities of physical and psychomotor development of children of all ages;
7. to study the semiotics of diseases of different organs and systems in children;
8. to form a clear picture of the rational feeding of infants and children over 1 year of age.

According to the standard of higher education of Ukraine (second (master's degree) level of higher education (National Qualifications Framework of Ukraine – 7), field of knowledge 22 "Healthcare", specialty 222 "Medicine"), the discipline ensures the acquisition of the following competences by students:

Integral:

Ability to solve complex problems, including research and innovation in the field medicine. Ability to continue learning with a high degree of autonomy.

general:

- GC01 Ability to think abstractly, analyze, and synthesize;
- GC03 The ability to apply knowledge in practical situations;
- GC09 Ability to communicate in English;

special (professional, subject matter):

- SK.01. Ability to collect medical information about the patient and analyze clinical data.
- SK.09. Ability to carry out medical and evacuation measures.
- SK.25. Adherence to professional and academic integrity, be responsible for the accuracy of scientific results.

5. Results of studying in a discipline:

5 semester

Results of studying (1. to know; 2. to be able; 3. communication; 4 autonomy and responsibility)		Forms (and/or methods and technologies) of teaching and learning	Methods of evaluation	Percentage in the final evaluation of the discipline
Cod	Results of studying			
1	To know			
1.1.	Periods of childhood and their features	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions	10
1.2.	Anatomical and physiological features of organs and systems of the child's body	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions	10
1.3.	Schemes of interviewing a sick child and his parents	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions	10
1.4.	Principles of rational natural, artificial, and mixed infant feeding. Basics of dieting in the treatment of childhood diseases	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions	10
2	To be able			
2.1.	Determine the age of the review, taking into account its main features	Practical lesson	Module control work 1, 2; assessment of oral / written answers/additions	10
2.2.	Collect patient complaints, medical history, medical history of life	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions	10

2.3.	Assess the physical and psychomotor development of the child according to age-related criteria	Practical lesson	Module control work 1, 2; assessment of oral / written answers/additions	10
2.4.	To calculate and make a diet for healthy children of all ages	Practical lesson, independent work	Module control work 1, 2; assessment of oral / written answers/additions	10
3	Communication			
3.1.	Demonstrate communication in dialogue with colleagues and with the patient; to effectively form a communication strategy in dealing with the patient	Practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions	10
4.	Autonomy and liability			
4.1.	To be guided by the fundamental questions and theories of nursing practice; to conduct selection and analysis of modern literature on this medical field, use it, as well as data processing programs for planning, obtaining, and analyzing the results of its own research work	Independent work	Module control work 1, 2; assessment of oral / written answers/additions	10

6 semester

Results of studying (1. to know; 2. to be able; 3. communication; 4 autonomy and responsibility)		Forms (and/or methods and technologies) of teaching and learning	Methods of evaluation	Percentage in the final evaluation of the discipline
Cod	Results of studying			
1	To know			
1.1.	Anatomical and physiological features of organs and systems of the child's organism	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions; exam	10
1.2.	Schemes of interviewing a sick child and his parents	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions; exam	10
1.3.	Algorithms for examination of a child of different age categories	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions; exam	10
1.4.	Methods (clinical, instrumental) of examination of children of different age categories	Lecture, practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions; exam	10
2	To be able			
2.1.	Collect patient complaints, medical history, medical history of life	Practical lesson	Module control work 1, 2;	10

			assessment of oral / written answers/additions; exam	
2.2.	To survey the general condition of different organs and systems	Practical lesson	Module control work 1, 2; assessment of oral / written answers/additions; exam	10
2.3.	Highlight a leading clinical symptom or syndrome	Practical lesson	Module control work 1, 2; assessment of oral / written answers/additions; exam	10
2.4.	To interpret the results of laboratory and instrumental studies in normal and pathological children	Practical lesson	Module control work 1, 2; assessment of oral / written answers/additions; exam	10
3	Communication			
3.1.	Demonstrate communication in dialogue with colleagues and with the patient; to effectively form a communication strategy in dealing with the patient	Practical lesson independent work	Module control work 1, 2; assessment of oral / written answers/additions	10
4.	Autonomy and liability			
4.1.	To be guided by the fundamental questions and theories of propaedeutic of pediatrics; to conduct selection and analysis of modern literature on this medical field, use it, as well as data processing programs for planning, obtaining, and analyzing the results of its own research work	Independent work	Module control work 1, 2; assessment of oral / written answers/additions	10

6. The ratio of results of studying discipline with programmatic learning outcomes

5 semester

Learning outcomes of the discipline (code – OC23) Program learning outcomes (title)	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	4.1
1. Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, ability to further professional training with a high level of autonomy.		+	+			+	+	+	+	
2. Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care.	+			+	+					+
5. Collect complaints, life history and disease, assess the psychomotor and physical development of the patient, the state of organs and systems of the body,	+	+			+	+	+	+		+

based on the results of laboratory and instrumental studies to assess information about the diagnosis (list 4), taking into account the patient's age.										
21. Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.	+	+	+	+					+	+

6 semester

Learning outcomes of the discipline (code – OC23)	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	4.1
Program learning outcomes (title)										
1. Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, ability to further professional training with a high level of autonomy.		+	+			+	+	+	+	
2. Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care.	+			+	+					+
5. Collect complaints, life history and disease, assess the psychomotor and physical development of the patient, the state of organs and systems of the body, based on the results of laboratory and instrumental studies to assess information about the diagnosis (list 4), taking into account the patient's age.	+	+			+	+	+	+		+
21. Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.	+	+	+	+					+	+

Scheme formation of the mark.

5 semester

7.1. Forms of student evaluation:

- semester assessment:

1. 1. Module control work 1 - LO 1.1. - 1.4, 2.1 - 2.4, 3.1., 4.1. (block of topics in Section 1)

- 20 points / 10 points

2. Module control work 2 - PH 1.1. - 1.4, 2.1 - 2.4, 3.1., 4.1. (block of topics in Section 1)

- 20 points / 10 points

3. Oral and written answers/additions - PH 1.1. - 4.1. - 60 points / 30 points

- final evaluation: in the form of intermediate control

The final score with the educational component, the final form of control for which the count is intermediate control, is defined as the sum of marks (points) for all successfully evaluated learning outcomes. Marks below the minimum threshold are not added to the final score.

Mandatory for a positive final score (60 points and above and "enrolled") is the completion of all practical classes.

It is not allowed to retake the semester control in order to improve the positive assessment.

7.2. Organization of evaluation:

Module control works 1 and 2 are carried out after the completion of practical classes from Sections 1.

The assessment of oral answers and additions is made during the semester during practical classes.

6 semester

7.1. Forms of student evaluation:

- semester assessment:

1. 1. Module control work 1 - LO 1.1. - 1.4, 2.1 - 2.4, 3.1., 4.1. (block of topics in Section 2)

- 20 points / 10 points

2. Module control work 2 - PH 1.1. - 1.4, 2.1 - 2.4, 3.1., 4.1. (block of topics in Section 2)

- 20 points / 10 points

3. Oral and written answers/additions - PH 1.1. - 4.1. - 20 points / 10 points

Final evaluation: in the form of an exam

The total score from the educational component as a whole, the final form of examination for which the exam is established, is defined as the sum of marks (marks) for all successfully evaluated learning outcomes during the semester (grades below the minimum threshold are not added to the final score) and the score obtained during the exam. Scores below the minimum threshold are not added to the final score.

The form of the exam is written, and the type of written task is test questions. The learning outcomes that are assessed during the exam are LO 1.1 - 2.4. The maximum number of points that can be obtained by the applicant during the exam is 40 points on a 100-point scale.

It is not allowed to retake the semester control in order to improve the positive assessment.

- admission conditions for the final exam:

Mandatory admission to the exam is the completion of all practical work and writing two module control tests. The applicant does not qualify for the exam if he/she has acquired less than 20 points during the semester.

7.2. Organization of evaluation:

Module control tests 1 and 2 are performed after the completion of practical lessons from content modules. Evaluation of oral answers/additions is carried out throughout the semester.

7.3. Validity Scale

Excellent	90-100
Good	75-89
Satisfactory	60-74
Fail	0-59

8. Structure of the discipline. Thematic plan

5 semester

№	Section titles and themes	Number of hours		
		Lectures	Practical lessons	Independent work *
1	Section 1. Physical and psychomotor development of the child. Feeding of children	14	32	44
2.	Lecture 1. Periods of childhood, their features. Peculiarities of neonatal period. Preterm baby, signs of prematurity.	2		
3.	Independent work. Periods of childhood, their features. Peculiarities of neonatal period. Preterm baby, signs of prematurity.			3
4.	Topic 1. Periods of childhood, their characteristics, and peculiarities		2	
5.	Independent work. Subject and place of pediatrics in the health care system, the main stages of development. Organization of medical and preventive care for children in Ukraine.			5
6.	Topic 2. Neonatal period.		2	
7.	Lecture 2. Physical and psychomotor development of the child and methods of assessment	2		
8.	Independent work. Physical and psychomotor development of the child and methods of assessment			3
9.	Topic 3. Physical development of a child.		1	
10.	Topic 4. Psychomotor development of the child.		1	
11.	Topic 5. Assessment of physical and psychomotor development.		2	
12.	Module control work 1 (physical and psychomotor development)		2	

№	Section titles and themes	Number of hours		
		Lectures	Practical lessons	Independent work *
13.	Lecture 3. Natural infant feeding, its benefits. Rules and technique of conducting. Supplemental feeding: definitions, types, rules of introduction.	2		
14.	Topic 6. Natural infant feeding. Quantitative and qualitative composition of breast milk. Methods for calculating daily food volume and diet.		2	
15.	Independent work. The value of breastfeeding for baby and mother. Quantitative and qualitative composition of breast milk. Immunobiological role of breast milk. Methods for calculating daily food volume and diet. Rules and technique of breastfeeding.			5
16.	Topic 7. Supplemental feeding. Peculiarities its introduction. The daily requirement of baby in food ingredients and energy.		2	
17.	Independent work. Feeding of premature babies.			4
18.	Lecture 4. Artificial and mixed infant feeding. Organization and principles of nutrition for children over one year of age.	2		
19.	Topic 8. Artificial infant feeding.		2	
20.	Independent work. Classification and characterization of infant formula for infant feeding. The technique of artificial feeding and criteria for evaluating its effectiveness. Supplemental feeding and correction of nutrition at artificial feeding. The daily requirement of the baby for protein, fat, carbohydrates, and calories in artificial feeding. Mixed feeding.			5
21.	Topic 9. Mixed infant feeding.		2	
22.	Independent work. Techniques and rules supplementary feeding. Milk formulas are used for breastfeeding. The scheme of mixed feeding of children in the first year of life. Supplementary feeding and nutrition correction. Baby's need for protein, fat, carbohydrates, and calories with mixed feeding. The concept of "free feeding", its forms, and indications for an appointment.			4
23.	Lecture 5. Organization and principles of healthy nutrition for healthy children over one year of age.	2		
24.	Topic 10. Organization and principles of healthy nutrition for healthy children over one year of age.		2	
25.	Module control work 2 (Feeding of the baby)		2	
26.	Topic 11. Anatomical and physiological features, methods of clinical neurological examination of children.		2	
27.	Topic 12. Semiotics of the main nervous system diseases in children. Features of cerebrospinal fluid in		2	

№	Section titles and themes	Number of hours		
		Lectures	Practical lessons	Independent work *
	children and the semiotics of its changes in pathology.			
28.	Independent work. Anatomical and physiological features, methods of clinical neurological examination of children.			4
29.	Topic 13. Anatomical and physiological features, semiotics of the skin and subcutaneous tissues diseases of children.		2	
30.	Topic 14. Semiotics of the musculoskeletal system diseases in children.		2	
31.	Independent work. Anatomical and physiological features, semiotics of the skin and subcutaneous tissues diseases of children.			3
32.	Lecture 6. Anatomical and physiological features and methods of examination of respiratory organs in children: complaint collection, review. Types of hypoxia. General semiotics of respiratory organ damage in children.	2		
33.	Topic 15. Palpation and percussion of the respiratory system in children. Semiotics of lesions (cough, shortness of breath, etc.) of the main respiratory diseases in children.		2	
34.	Independent work. Anatomical and physiological features and methods of examination of respiratory organs in children.			4
35.	Lecture 7. Semiotics of respiratory damage in children. Respiratory disorders and respiratory failure syndromes.	2		
36.	Independent work. Semiotics of respiratory damage in children. Respiratory disorders and respiratory failure syndromes.			4

* If there are changes to the training schedule, see Appendix 1

The total amount of 90 hours, including:

Lectures – 14 hours.

Practical classes - 32 hours.

Independent work – 44 hours.

6 semester

№	Section titles and themes	Number of hours		
		Lectures	Practical lessons	Independent work *
1	Section 2. Anatomical and physiological features, study methodology, and semiotics of diseases in children	6	24	29

№	Section titles and themes	Number of hours		
		Lectures	Practical lessons	Independent work *
2.	Topic 16. Auscultation and additional methods of investigation of babies' lungs.		1	
3.	Topic 17. Semiotics of respiratory system diseases in children (Acute respiratory diseases).		1	
4.	Topic 18. Semiotics of respiratory system diseases in children (Pneumonia).		1	
5.	Independent work. Semiotics of respiratory diseases. Respiratory disorders and respiratory failure syndromes are the main clinical manifestations.			3
6.	Lecture 8. Anatomical and physiological features and investigations technique of cardiovascular system at children. Features of an ECG at children in norm and pathology.	1		
7.	Topic 19. Anatomical and physiological features and investigations technique of cardiovascular system at children.		2	
8.	Topic 20. Percussions and auscultation of the child's heart.		1	
9.	Independent work. Anatomical and physiological features and investigations technique of cardiovascular system at children. Features of an ECG at children in norm and pathology.			3
10.	Lecture 9. Semiotics of cardiovascular system damage in children: mitral valve prolapsed, congenital heart defects (with enrichment and depletion pulmonary circulation).	1		
11.	Topic 21. Semiotics of diseases of the cardiovascular system. Functional tests and instrumental methods of CVS research.		2	
12.	Topic 22. Semiotics of diseases of the cardiovascular system.			
13.	Independent work. Semiotics of diseases of the cardiovascular system (endocarditis, myocarditis, pericarditis, differential diagnosis of congenital and acquired heart defects). Electrocardiography, echocardiography.			3
14.	Lecture 10. Anatomical and physiological features, methods of investigation of the hematopoietic system. The main clinical manifestations of anemic syndrome. Leukocytosis syndrome and leukopenia.	1		
15.	Topic 23. Anatomical and physiological features, methods of investigation of the hematopoietic system in children of different age groups. Methods of clinical and laboratory examination of children with lesions of the blood system.		2	
16.	Independent work. Anatomical and physiological features, methods of investigation of the hematopoietic system. The main clinical manifestations of anemic syndrome. Leukocytosis syndrome and leukopenia.			2

№	Section titles and themes	Number of hours		
		Lectures	Practical lessons	Independent work *
18.	Topic 24. Clinical-hematological semiotics of major syndromes and diseases of the blood system in children.		2	
19.	Independent work. Clinical-hematological semiotics of major syndromes (anemic, hemolytic, hemorrhagic, etc.) and diseases of the blood system in children.			3
20.	Lecture 11. Anatomic and physiological features of the gastrointestinal tract. Additional methods of the gastrointestinal tract examination. Semiotics of gastrointestinal tract lesions in children. Syndrome of "Acute abdomen".	1		
21.	Topic 25. Anatomic and physiological features, additional methods of the gastrointestinal tract examination.		2	
22.	Independent work. Anatomic and physiological features of the gastrointestinal tract. Additional methods of the gastrointestinal tract examination. Semiotics of gastrointestinal tract lesions in children. Syndrome of "Acute abdomen".			3
23.	Topic 26. Semiotics of gastrointestinal tract lesions in children. Abdominal syndrome.		2	
24.	Topic 27. Semiotics of gastrointestinal tract lesions in children. Violation of defecation in children.		2	
25.	Independent work. Semiotics of gastrointestinal tract lesions. Pylorospasm, pylorostenosis. Violation of defecation in children.			3
26.	Lecture 12. Anatomical and physiological features of organs of the excretory system in childhood. Methodic examination and additional methods of research of the urinary system in children.	1		
27.	Topic 28. Anatomical and physiological features, methodic examination of the urinary system in children.		2	
28.	Independent work. Anatomical and physiological features of organs of the excretory system in childhood. Methodic examination and additional methods of research of the urinary system in children.			3
29.	Lecture 13. Semiotics of the most common diseases of the urinary system in children. Semiotics of microscopic changes of urinary sediment. Syndrome of acute and chronic renal failure.	1		
30.	Topic 29. Semiotics of microscopic changes of urinary sediment. Syndrome of acute and chronic renal failure.		2	
31.	Independent work. Semiotics of the most common diseases of the urinary system in children (pyelonephritis, glomerulonephritis, cystitis). Syndrome of acute and chronic renal failure.			3
32.	Topic 30. Anatomical and physiological features, examination technique, semiotics of endocrine system diseases in children.		2	

№	Section titles and themes	Number of hours		
		Lectures	Practical lessons	Independent work *
33.	Independent work. Anatomical and physiological features, examination technique, semiotics of endocrine system diseases in children.			3

* If there are changes to the training schedule, see Appendix 1

The total amount of 60 hours, including:

Lectures – 6 hours.

Practical classes - 24 hours.

Consultation – 1 hour

Independent work – 29 hours.

9. Recommended Sources:

Basic:

1. Nelson Textbook of Pediatrics.-20th ed/.[edited by] Robert M.Kliegman...[et al.], 2016.- 3147 pp.
2. N. Burton. Clinical Skills for OSCEs, 5th edition. - Scion Publishing Ltd. 2015.-344 p.
3. Nelson Textbook of Pediatrics. 20th edition. – V(1,2). – 2016. – P.5315.
4. Global strategy for infant and young child feeding. WHO, 2002.
5. V.G. Maidannyk. Propedeutic Pediatrics - Vinnytsia: New Book, 2012. -880 p. O.M. Kovaleva, et al. Care for the sick.- K.: Medicine. - 2010.
6. T. Kyle. Maternity and Pediatric Nursing, 3rd edition. Lippincott Williams & Wilkins. – 2017.
7. Education Encyclopedia. Stages of growth in child development. Available from: <http://education.stateuniversity.com/pages/1826/Child-Development-Stages1Growth.html#ixzz0j0jMHgRB>.
8. Budnik T.V., Bevzenko T.B. A ten-year analysis of changes in the sensitivity of the leading uropathogen to antibacterial agents in children with urinary tract infection in the Nephrology Department. Wiadomości lekarskie. 2020;7:

Additional:

1. Washington Manual of Pediatrics, 2nd ed. by Andrew J. White (Editor), 2016.- 542 pp.
2. Illustrated Textbook of Paediatrics by Tom Lissauer (Editor); Will Carroll (Editor), 2018.-533 pp.
3. Budnik T.V., Povoroznyuk V.V., Balatska N.I., Trace mineral status in children with chronic kidney disease stages I-III. Materials of the 27th Congress of the International Pediatric Association. 2013 August 24-29; Melbourne, AU; 2013, P. 365.
4. Budnik T.V., Povoroznyuk V.V., Balatska N.I., Bone mineral density in pediatric patients with chronic kidney disease. World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases. 2014 Apr. 2-5; Seville, SP; 2014, P. 230.
5. Budnik T.V., E.M. Mordovets, N.A. Tikhonenko, T.A. Gorokhovskaya, T.N. Vinogradova, O. Markotenko, Evaluation of therapeutic tactics on the impact on some indicators of urobiome in children with a recurrent course of urinary tract infection. Nephro Update Europe.2019 Sept. 21 – 22; Prague, Czech Republic; 2019, P. 8.
6. Budnik T.V., D.D. Ivanov, E. M. Mordovets, Citrate therapy in patients with UTI in combination with mineral dysmetabolism. Nephro Update Europe. 2019 Sept. 21 – 22; Prague, Czech Republic; 2019, P.10.

7. Budnik T., Mordovets E., Andrunevych R., Derkach A., Petrenko E., Evolution of urobiome in children with recurrent UTI as an example of a decade-long patter. Nephro Update Europe. 2019 Sept. 21 – 22; Prague, Czech Republic; 2019, P. 18.

10. Additional resources:

1. ESG – http://ihed.org.ua/images/pdf/standards-and-guidelines_for_qa_in_the_ehea_2015.pdf.

Internet links:

- <http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=3611-17>
- <http://www.meddean.luc.edu/lumen/meded/medicine/pulmonar/pd/contents.htm>
- <http://meded.ucsd.edu/clinicalmed/>
- http://archive.nbuv.gov.ua/portal/soc_gum/vzhdu/2011_57/vip_57_13.pdf
- http://archive.nbuv.gov.ua/portal/chem_biol/Mosv/2012_4/data/article22.pdf
- http://archive.nbuv.gov.ua/portal/Soc_Gum/Npd/2012_1/2neranov.pdf