

MINISTRY OF HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of Pediatrics No. 1



APPROVE

Acting pro-rector for scientific and educational work

Prof.

Svitlana KOTIUZHYNKA

01

09

2022

EDUCATIONAL PROGRAM OF ELECTIVE DISCIPLINE
«Emergency conditions in pediatric endocrinology»

Higher education level: second (master's)

Knowledge Area: 22 "Health Care"

Specialty: 222 "Medicine"

Educational and professional program: Medicine

The working program is compiled on the basis of the educational and professional program "Medicine", the training of specialists of the second (master's) level of higher education in the specialty 222 "Medicine" of the field of knowledge 22 "Health care", approved by the Academic Council of ONMedU, dated Jun 23, 2022, protocol No. 9.

Developers: head of the department, Corresponding Member of NAMS of Ukraine, DSc, Prof. Aryaev M.L., head teacher of the department, PhD, assoc. of professor Kaplina L. E., PhD, assoc. of professor Senkivska LI., ass. Prof Talashova I.V.

The working program was approved at the meeting of the Department of Pediatrics No. 1

Protocol No. 21 dated June 29, 2022

Head of the department, Corresponding Member of NAMS of Ukraine,

DSc, Prof.

Mykola ARYAYEV

Agreed with the guarantor of the EPP

(signature)

(Valeria MARICHEREDA)
(Name SURNAME)

The program was approved at the meeting of the subject cycle commission for pediatric disciplines of ONMedU

Protocol No. 6 dated "30" 06 2022 y.

Head of the subject cycle methodical commission for pediatric disciplines, professor

(signature)

(Natalia KOTOVA)
(Name SURNAME)

Reviewed and approved at the meeting of the Department of Pediatrics No. 1

Protocol No. dated " " 20 y.

Head of the department (Mykola ARYAYEV)

(signature)

(Name SURNAME)

Reviewed and approved at the meeting of the Department of Pediatrics No. 1

Protocol No. dated " " 20 y.

Head of the department (Mykola ARYAYEV)

(signature)

(Name SURNAME)

1. The scope of the elective discipline:

2. The name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the educational discipline
Total amount: Credits: 1,5 Hours: 45 Substantive subsections: 1	Knowledge Area: 22 "Health Care"	<i>Full-time education</i> <i>Elective discipline</i>
		<i>Year of education: 6</i>
	Specialty: 222 "Medicine"	<i>Semester XI – XII</i>
		<i>Lectures (0 h.)</i>
		<i>Seminary (16 h.)</i>
	Specialization physician	<i>Practical (0 h.)</i>
		<i>Laboratory (0 h.)</i>
		<i>Independent work (29 h.)</i>
	Higher education level: second (master's)	<i>Incl. individual assignments (0 h.)</i>
		<i>Final control form (according to the educational plan) – credit.</i>

2. The purpose and task of the elective discipline

Purpose: The application's acquisition of the higher education of additional knowledge and mastery of professional competences in providing emergency care to children, based on the competences obtained during the study of previous disciplines.

Tasks:

1. Formation of skills and communication skills with a sick child or his parents.
2. Improving the skills of substantiating clinical diagnosis, drawing up a plan for laboratory and instrumental research.
3. Mastering the skills to determine the tactics of treatment and prevention of the most common diseases in children.

The process of studying the discipline is aimed at forming the elements of the following competencies:

General (GC):

- GC1 – Ability to abstract thinking, analysis and synthesis.
- GC2 – Ability to learn and master modern knowledge.
- GC3 – Ability to apply knowledge in practical situations.
- GC4 – Knowledge and understanding of the subject area and understanding of professional activity.
- GC5 – Ability to adapt and act in a new situation.
- GC6 – Ability to make reasonable decisions.
- GC7 – Ability to work in a team.

- GC8 – Ability to interpersonal interaction.
- GC10 – Ability to use information and communication technologies.
- GC11 – Ability to search, process and analyze information from various sources.
- GC12 – Determination and perseverance regarding the assigned tasks and assumed responsibilities.
- GC13 – Awareness of equal opportunities and gender issues.
- GC14 – Ability to realize one's rights and responsibilities as a member of society, to realize the values of public (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.
- GC15 – Ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies, use different types and forms motor activity for active recreation and leading a healthy lifestyle.
- GC17 – Desire to preserve the environment.

Special (SC):

- SC1 – Ability to collect medical information about the patient and analyze clinical data.
- SC2 – Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.
- SC3 – Ability to establish a preliminary and clinical diagnosis of the disease.
- SC4 – Ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.
- SC5 – Ability to determine the nature of nutrition in the treatment and prevention of diseases.
- SC6 – Ability to determine the principles and nature of treatment and prevention of diseases.
- SC7 – Ability to diagnose emergency conditions.
- SC8 – Ability to determine tactics and provide emergency medical care.
- SC11 – Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.
- SC13 – Ability to carry out sanitary and hygienic and preventive measures.
- SC16 – Ability to fill medical documentation, including electronic forms.
- SC17 – Ability to assess the impact of the environment, socio-economic and biological determinants on the state of health of an individual, family, population.
- SC21 – Ability to clearly and unambiguously convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists, in particular to people who are studying.
- SC24 – Adherence to ethical principles when working with patients and laboratory animals.
- SC25 – Adherence to professional and academic integrity, being responsible for the reliability of the obtained scientific results.
- SC26 – Ability to determine the management tactics of persons subject to dispensary supervision.

Expected learning outcomes. As a result of studying, the application's acquisition of the higher education must:

Have:

- PLO1 – Having a thorough knowledge of the structure of professional activity. Being able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
- PLO2 – Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.
- PLO3 – . Specialized conceptual knowledge that includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.
- PLO4 – Identifying leading clinical symptoms and syndromes (according to list 1); according to standard methods, using preliminary data of the patient's history, data of the patient's examination,

knowledge about the person, his organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2)..

- PLO5 – Collecting complaints, history of life and diseases, assessing 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, evaluation of the information regarding the diagnosis (according to list 4), taking into account the age of the patient..
- PLO6 – Establishing the final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis, observing the relevant ethical and legal norms, under the control of the managing physician in the conditions of the health care institution (according to the list 2).
- PLO7 – . Assigning and analyzing additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to list 4) of patients with diseases of organs and body systems for differential diagnosis of diseases (according to list 2).
- PLO8 – Determination of the main clinical syndrome or symptom that determines the severity of the victim's/victim's condition (according to list 3) by making a reasoned decision about the person's condition under any circumstances (in the conditions of a health care facility, outside its borders), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.
- PLO9 – Determination of the nature and principles of treatment (conservative, operative) of patients with diseases (according to list 2), taking into account the patient's age, in the conditions of a health care institution, outside its borders and at the stages of medical evacuation, including in field conditions, based on a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, in case of the need to expand the standard scheme, be able to justify personalized recommendations under the control of the head physician in the conditions of a medical institution.
- PLO10 – Determination of the necessary mode of work, rest and nutrition based on the final clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
- PLO12 – Assessment of the general condition of a newborn child by making a reasoned decision according to existing algorithms and standard schemes, observing the relevant ethical and legal norms.
- PLO13 – Assessment and monitoring of the child's physical and psychomotor development, provision of recommendations on feeding and nutritional features depending on age, and organization of preventive vaccinations according to the calendar.
- PLO14 – Determination of tactics and providing emergency medical care in emergencies (according to list 3) in limited time conditions according to existing clinical protocols and standards of treatment.
- PLO17 – Performing medical manipulations (according to list 5) in the conditions of a medical institution, at home or work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.
- PLO21 – Searching for the necessary information in the professional literature and databases of other sources, analysing, evaluating and application of this information.
- PLO25 – Conveying one's knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists clearly and unambiguously.
- PLO27 – Communication freely in the state language and English, both orally and in writing to discuss professional activities, research and projects.
- PLO30 – Determination of the management tactics of persons subject to dispensary supervision (children, pregnant women, workers whose professions require mandatory dispensary examination).

Expected learning outcomes. As a result of studying the academic discipline, the applicant of the higher education must:

Know: Algorithms of communication with the parents of a child. Algorithms for communicating with the parents of a child with complaints of delayed physical development, impaired sexual development, obesity, signs of rickets. Methods of assessment of physical and sexual development in children according to the ages and sexes. Algorithms for the diagnosis and provision of emergency care to children in critical conditions with disorders of mineral

metabolism, diseases of the thyroid and parathyroid glands, diseases of the adrenal glands, and diabetes mellitus.

Be able to:

- To assess the physical development of children according to the age and sex.
- Assess sexual development in children according to the age and genders.
- Diagnose disorders of physical development in children. Determination of further patient management tactics.
- Diagnose disorders of sexual development in children. Determination of further patient management tactics.
- Communicate with the child's parents, with complaints of obesity, to determine diagnostic tactics and further management of the patient.
- Conduct a survey of the child's parents according to the algorithm of communication, examination and medical management of a young child suffering from rickets and rickets-like diseases.
- Diagnose adrenal gland diseases in children (adrenogenital syndrome, acute and chronic adrenal insufficiency). Determine further patient management tactics and provide medical assistance in case of emergency conditions.
- Diagnose diseases of the thyroid and parathyroid glands in children (hypothyroidism, hyperthyroidism).
- Determine further patient management tactics. Provide emergency care for hypercalcemic crisis in children.
- Carry out differential diagnosis of emergency conditions in diabetes mellitus and provide emergency medical care in diabetic ketoacidosis, hypoglycemic coma, hyperosmolar coma, hyperlactacidemic coma.
- Conduct clinical examination of children of different age group according to standard methods.
- Analyze the results of laboratory, functional and instrumental research.
- Carry out differential diagnosis and confirm the clinical diagnosis.
- Determine tactics and provide emergency medical care in emergency situations in children.
- To determine the nature and principles of treatment of children on the basis of a preliminary clinical diagnosis, observing relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
- Perform medical manipulations (according to list 5) for common diseases in children.
- Keep medical documentation for common diseases in children

3. Content of the elective discipline

Emergency conditions in pediatric endocrinology

Subsection 1

Topic №1. Acquisition of practical skills in managing children with endocrine diseases.

Assessment of physical development of children of different age groups according to signal and centile nomograms. Evaluation of the sexual development of children of different ages and sexes according to the Tanner scale.

Topic №2. Diagnosis of disorders of physical and sexual development in children.

Differential diagnosis, substantiation of clinical diagnosis and management of children with growth and sexual development disorders. Obesity: diagnosis, treatment, prevention.

Topic №3. Critical conditions in diseases of the thyroid and parathyroid glands. Hyperthyroidism, etiology, pathogenesis, clinic, diagnosis, emergency care in thyrotoxic crisis. Role games. Hypothyroidism, etiology, pathogenesis, clinic, diagnosis, replacement therapy. Hypercalcemic crisis, pathogenesis, clinic, diagnosis, emergency care.

Topic № 4. Critical conditions in diabetes mellitus.

The main critical conditions in diabetes mellitus: diabetic ketoacidosis, hypoglycemic coma, hyperosmolar coma, hyperlactacidemic coma. Etiology, pathogenesis, clinic, diagnosis, emergency care.

Topic №5. Features of diagnosis and treatment of adrenogenital syndrome in children.

Adrenogenital syndrome, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, replacement therapy.

Topic №6. Critical conditions in adrenal gland diseases in children.

Acute adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency care. Role games.

Chronic adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency care, treatment.

Topic №7. Development of communication skills when communicating with parents of children with mineral metabolism disorders. Rickets. Etiopathogenesis. classification, clinic, diagnosis, treatment of rickets.

Topic №8. Diagnosis and peculiarities of the management tactics of children with rickets-like diseases. Rickets-like diseases: differential diagnosis, treatment. Spasmophilia: clinical manifestations, differential diagnosis, emergency care.

4. Structure of elective discipline

Topic	Number of hours					
	Total	Including				
		Lectio ns	Seminars	practice	laboratory	Self- trainin g
Subsection 1. Emergency conditions in pediatric endocrinology						
Topic №1. Acquisition of practical skills in managing children with endocrine diseases. Assessment of physical development of children of different age groups according to signal and centile nomograms. Evaluation of the sexual development of children of different ages and sexes according to the Tanner scale.	6	0	2	0	0	4
Topic №2. Diagnosis of disorders of physical and sexual development in children. Differential diagnosis, substantiation of clinical diagnosis and management of children with growth and sexual development disorders. Obesity: diagnosis, treatment,	6	0	2	0	0	4

prevention.						
Topic №3. Critical conditions in diseases of the thyroid and parathyroid glands. Hyperthyroidism, etiology, pathogenesis, clinic, diagnosis, emergency care in thyrotoxic crisis. Role games. Hypothyroidism, etiology, pathogenesis, clinic, diagnosis, replacement therapy. Hypercalcemic crisis, pathogenesis, clinic, diagnosis, emergency care.	6	0	2	0	0	4
Topic4. Critical conditions in diabetes mellitus. The main critical conditions in diabetes mellitus: diabetic ketoacidosis, hypoglycemic coma, hyperosmolar coma, hyperlactacidemic coma. Etiology, pathogenesis, clinic, diagnosis, emergency care.	6	0	2	0	0	4
Topic №5. Features of diagnosis and treatment of adrenogenital syndrome in children. Adrenogenital syndrome, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, replacement therapy.	6	0	2	0	0	4
Topic №6. Critical conditions in adrenal gland diseases in children. Acute adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency	6	0	2	0	0	4

care. Role games. Chronic adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency care, treatment.						
Topic№7. Development of communication skills when communicating with parents of children with mineral metabolism disorders. Rickets. Etiopathogenesis. classification, clinic, diagnosis, treatment of rickets.	5	0	2	0	0	3
Topic №8. Diagnosis and peculiarities of the management tactics of children with rickets-like diseases. Rickets-like diseases: differential diagnosis, treatment. Spasmophilia: clinical manifestations, differential diagnosis, emergency care.	4	0	2	0	0	2
Total according to subsection 1	45	0	16	0	0	29
Individual tasks	0	0	0	0	0	0
Total hours	45	0	16	0	0	29

5. Topics of lectures / seminars / practical / laboratory classes

5.1. Lecture topics are not provided.

5.2. Topics of seminars

№	Topic	Number of hours
1.	Topic 1. Acquisition of practical skills in managing children with endocrine diseases. Assessment of physical development of children of different age groups according to signal and centile nomograms. Evaluation of the sexual development of children of different ages and sexes according to the Tanner scale.	2
2.	Topic 2. Diagnosis of disorders of physical and sexual development in children. Differential diagnosis, substantiation of clinical diagnosis and management of children with growth and sexual development disorders. Obesity: diagnosis, treatment, prevention.	2

3.	Topic 3. Critical conditions in diseases of the thyroid and parathyroid glands. Hyperthyroidism, etiology, pathogenesis, clinic, diagnosis, emergency care in thyrotoxic crisis. Role games. Hypothyroidism, etiology, pathogenesis, clinic, diagnosis, replacement therapy. Hypercalcemic crisis, pathogenesis, clinic, diagnosis, emergency care.	2
4.	Topic 4. Critical conditions in diabetes mellitus. The main critical conditions in diabetes mellitus: diabetic ketoacidosis, hypoglycemic coma, hyperosmolar coma, hyperlactacidemic coma. Etiology, pathogenesis, clinic, diagnosis, emergency care.	2
5.	Topic 5. Features of diagnosis and treatment of adrenogenital syndrome in children. Adrenogenital syndrome, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, replacement therapy.	2
6.	Topic 6. Critical conditions in adrenal gland diseases in children. Acute adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency care. Role games. Chronic adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency care, treatment.	2
7.	Topic 7. Development of communication skills when communicating with parents of children with mineral metabolism disorders. Rickets. Etiopathogenesis. classification, clinic, diagnosis, treatment of rickets.	2
8.	Topic 8. Diagnosis and peculiarities of the management tactics of children with rickets-like diseases. Rickets-like diseases: differential diagnosis, treatment. Spasmophilia: clinical manifestations, differential diagnosis, emergency care.	1
	Total	16

5.3. Topics of practical lessons are not provided.

5. Self-training applicant of higher education

№	Type of self-training	Number of hours
1	Preparation for the seminar class: Acquisition of practical skills in managing children with endocrine diseases. Assessment of physical development of children of different age groups according to signal and centile nomograms. Evaluation of the sexual development of children of different ages and sexes according to the Tanner scale.	4
2	Preparation for the seminar class: Diagnosis of disorders of physical and sexual development in children. Differential diagnosis, substantiation of clinical diagnosis and management of children with growth and sexual development disorders. Obesity: diagnosis, treatment, prevention.	4
3	Preparation for the seminar class: Critical conditions in diseases of the thyroid and parathyroid glands. Hyperthyroidism, etiology, pathogenesis, clinic, diagnosis, emergency care in thyrotoxic crisis. Role games. Hypothyroidism, etiology, pathogenesis, clinic, diagnosis, replacement therapy. Hypercalcemic crisis, pathogenesis, clinic, diagnosis, emergency care.	4
4	Preparation for the seminar class: Critical conditions in diabetes mellitus. The main critical conditions in diabetes mellitus: diabetic ketoacidosis, hypoglycemic coma, hyperosmolar coma,	4

	hyperlactacidemic coma. Etiology, pathogenesis, clinic, diagnosis, emergency care.	
5	Preparation for the seminar class: Features of diagnosis and treatment of adrenogenital syndrome in children. Adrenogenital syndrome, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, replacement therapy.	4
6	Preparation for the seminar class: Critical conditions in adrenal gland diseases in children. Acute adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency care. Role games. Chronic adrenal insufficiency: etiology, pathogenesis, clinic, diagnosis, emergency care, treatment.	4
7	Preparation for the seminar class: Development of communication skills when communicating with parents of children with mineral metabolism disorders. Rickets. Etiopathogenesis. classification, clinic, diagnosis, treatment of rickets.	3
8	Preparation for the seminar class: Diagnosis and peculiarities of the management tactics of children with rickets-like diseases. Rickets-like diseases: differential diagnosis, treatment. Spasmophilia: clinical manifestations, differential diagnosis, emergency care.	2
	Total	29

7. Teaching methods

Seminar lessons: discussion of theoretical issues, face-to-face survey on basic terminology, testing, role-playing games for mastering communication skills of communication with a sick child or his parents with common diseases in children, (work in a team).

Independent work: study of communication algorithms with a sick child and his parents in common diseases in children.

8. Forms of control and evaluation methods

(including criteria for assessing learning outcomes)

Current control: assessment of mastery of practical communication skills with a sick child and his parents in common diseases in children.

Final control: test.

The structure of the current assessment at the seminar session

Assessment of compliance with the communication algorithm during the role-playing game;
- maximum mark – 5, minimum mark – 3, unsatisfactory mark – 2.

Assessment of additional examination methods and their interpretation

- maximum mark – 5, minimum mark – 3, unsatisfactory mark – 2;

Assessment of the justification of the preliminary or clinical diagnosis and determination of patient management tactics.

- maximum mark – 5, minimum mark – 3, unsatisfactory mark – 2;

The grade for the lesson is the arithmetic average of all components and can only have an integer value, namely 5, 4, 3, 2.

Criteria for the assessment in a seminar lessons:

Excellent "5"	The applicant for higher education is fluent in the material, takes an active part in role games, discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a sick child and interpretation of clinical, laboratory and instrumental studies, expresses his opinion on the topic of the lesson, demonstrates clinical thinking.
Good "4"	The applicant for higher education is well versed in the material, participates in the role games, discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of a sick child and interpretation of clinical, laboratory and instrumental studies with some errors, expresses his opinion on the topic, demonstrates clinical thinking.
Satisfactorily "3"	The applicant for higher education does not have enough material, insecurely participates in the role games, discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of a sick child and interpretation of clinical, laboratory and instrumental studies with significant errors.
Unsatisfactorily "2"	The applicant for higher education does not have the material, does not participate in the role games, discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of a sick child and the interpretation of clinical, laboratory and instrumental studies.

9. Distribution of points received by students of higher education

The applicant for higher education is credited with optional discipline, provided there is no academic debt and an average current grade of at least 3.0

10. Methodological support:

- The working program of a elective academic discipline
- Syllabus of selective academic discipline
- Textbooks: **Nelson textbook** of pediatrics, 2 volume set. **Edition: 21st**, 2019. PDF format.
<http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/>
- Multimedia presentations
- Test tasks
- Methodical materials of seminar classes

11. Recommended literature

Basic:

1. **Nelson textbook** of pediatrics, 2 volume set. **Edition: 21st**, 2019. PDF format.
<http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/>
2. Pediatrics. Differential diagnosis. Urgent conditions edited by Aryaeva ML, Kotova NV, electronic edition on CD.
3. Pediatrics. Differential diagnosis. Emergencies. ML Aryaev, NV Kotova, OO Zelinsky [etc.]; edited by Aryaeva ML, Kotova NV Odessa: ONMedU. - 2017. - 280 p.
4. Pediatrics Textbook in two volumes, ed. ML Aryaeva, NV Kotova. - Vol.1. Neonatology. Hematology. Endocrinology. - Odessa.: ONMedU. - 2014. - 155 p.

Additional:

1. EMERGENCY MEDICAL CARE: NEW CLINICAL PROTOCOL (ORDER OF THE MOH OF UKRAINE OF 05.06.2019, №1269) .
2. Aryayev M, Senkivska L and Lowe JB (2021) Psycho-Emotional and Behavioral Problems in Children With Growth Hormone Deficiency. *Front. Pediatr.* 9:707648. doi: 10.3389/fped.2021.707648, SCOPUS, Квартиль Q1
3. Senkivska L, Aryayev M. Compliance and barriers to growth hormone therapy in children. *Pediatrica Polska - Polish Journal of Paediatrics.* 2021;96(3). – С.181-184. DOI: <https://doi.org/10.5114/polp.2021.109303> SCOPUS, Квартиль Q4
4. Population-based approaches to childhood obesity prevention. WHO Library Cataloguing-in-Publication Data 2013 yr. -54 p. ISBN 978 92 4 150478 2
5. Guideline 00642. Rickets. A printable version of this document: <http://guidelines.moz.gov.ua/documents/2918?id=ebm00642&format=pdf>
6. Kvashnina L.V. Vitamin D in different periods of childhood: what we know, what we should remember and what we have forgotten. 25.12.2017. Access mode: <https://health-ua.com/article/32672-vitamn-D-urzn-perodi-ditinstva-sho-znamo-sho-treba-pamyatati--sho-zabuli>
7. Tsiunchyk Yu. G. Clinical significance of psycho-emotional factors in obesity in children. *Modern pediatrics.* 2016. No. 5. P. 98–101.

15. Electronic information resources

1. <https://www.pediatrics.od.ua/>
2. <http://moz.gov.ua> – Ministry of Health of Ukraine
3. www.ama-assn.org - American Medical Association / American Medical Association
4. www.oapn.od.ua - NGO "Odesa Association of Pediatricians and Neonatologists"
5. www.who.int - World Health Organization
6. www.dec.gov.ua/mtd/home/ - State Expert Center of the Ministry of Health of Ukraine
7. <http://bma.org.uk> - British Medical Association
8. www.gmc-uk.org - *General Medical Council* (GMC)
9. www.bundesaerztekammer.de – German Medical Association
10. https://www.who.int/workforcealliance/members_partners/member_list/ipa/en/ - International Pediatric Association (IPA)
11. <http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/>