

Federal State Autonomic Educational Institution of Higher Education
«Peoples' Friendship University of Russia»

Medical Institute

Recommended MCSD

ACADEMIC COURSE WORKING PROGRAM

Course name

Basics of child nutrition

Recommended for the direction of training (specialty)

31.05.01 General Medicine

Program (profile, specialization)

General Medicine

1. Aims and objectives of discipline:

Aims of the discipline:

training of qualified doctors with theoretical and practical knowledge, skills and competence in the field of diagnosis, treatment tactics, clinical examination and prevention of diseases associated with nutritional status of children and adolescents and also, with the capability and willingness for independent professional activities.

Objectives of the discipline:

- to improve the training of doctors in the field of pediatric nutrition.
- to improve the system of special knowledge and skills in the field of nutrition in children and adolescents.

2. Place of discipline in the structure of OP HE:

Discipline *Basics of child nutrition* refers to the variable part of Block 1 of discipline (modules) and is an elective.

Table №1 given preceding and following discipline aimed at forming competence discipline in accordance with the matrix competences OP HE.

Preceding and following the discipline aimed at creating competencies

№ п/п	Code and title of competence	Preceding disciplines	Following disciplines
Professional Competences (type of professional activity medical activity)			
1	PC-2 Being able to examine a patient in order to determine a diagnosis	Biology, normal physiology, microbiology, virology, developmental physiology and anatomy, medical enzymology, introduction to nutrition, topographic anatomy, operative surgery, immunology, pathophysiology, clinical pathophysiology, dermatovenereology, neurology, medical genetics, neurosurgery, occupational diseases, general and faculty surgery, obstetrics and gynecology	Polyclinic therapy, hospital, pediatric surgery, urology, oncology, radiation therapy
2	PC-3 Being able to prescribe treatment and monitor its efficacy and safety	Pathological anatomy, topographical anatomy, operative surgery, dermatovenereology, neurology, medical genetics, neurosurgery, otorhinolaryngology, ophthalmology, forensic medicine, internal diseases propedeutics, faculty therapy, pathophysiology, occupational diseases, general and faculty	Disaster medicine, hospital therapy, oncology, radiation therapy, topical issues of neonatology

		surgery, dentistry, urology, obstetrics and gynecology.	
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3. Requirements to results of development of discipline:

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

Competences	Name	Achievement Indicator Code and Name
PC-2	Being able to examine a patient in order to determine a diagnosis	<p>PC-2.2. Being able to make a preliminary diagnosis and make up a plan of laboratory and instrumental examinations of a patient.</p> <p>PC-2.7. Being able to carry out differential diagnosis with other diseases/conditions, including the urgent ones, as well as to make a diagnosis taking into account the current international statistical classification of diseases and problems related to health (ICD).</p>
PC-3	Being able to prescribe treatment and monitor its efficacy and safety	<p>PC-3.1. Being able to develop a treatment plan for a disease or condition taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.</p> <p>PC-3.2. Being able to prescribe medicinal drugs, medical devices and medical nutrition taking into account the diagnosis, age and clinical picture of the disease and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.</p>

As a result of study of discipline a student must:

Know:

- the principles of the functioning of the children's body and mechanisms for ensuring health from the standpoint of the theory of functional systems;
- the essence of the methods of research of various functions in neonates to assess the state of health, the basic principles and the role of the causes, conditions and reaction of the body in the occurrence of diseases associated with malnutrition in children;
- causes, mechanisms of development, manifestation of the pathological processes underlying diseases associated with malnutrition in children;
- etiology, pathogenesis and pathology, main manifestations, outcomes of the most important and common diseases of malnutrition in children;
- basics of nutrition for a healthy, as well as a sick child.

Be handy at:

- providing emergency medical care such as first pre-hospital medical care in case of emergency and life-threatening nutritional disorders in neonates;
- evaluating and explaining the basic principles of the development and regulation of the physiological functions of children in the process of their vital activities;
- explaining the role of pathological processes in the development of diseases associated with malnutrition in children;
- conducting early diagnosis by clinical symptoms and syndromes, differential diagnosis, assess the severity of the condition, determine the indications for hospitalization in diseases associated with malnutrition in children;
- determining the amount and sequence of special diagnostic measures, and evaluating their results in diseases associated with malnutrition in children;
- understanding the need for the participation of other specialists in the complex treatment of nutritional disorders in children;
- calculate the nutritional requirements of a healthy, as well as a sick child;

Manage:

- the methods of providing first medical aid in emergency conditions for diseases associated with malnutrition in children;
- the preventive, diagnostic and therapeutic procedures in the capacity of qualified or specialized care;
- the knowledge of the causes, mechanisms of development and manifestations of pathological processes;
- the methodical foundations of medicinal and non-medicinal methods of treatment for diseases associated with malnutrition in children;
- the methods of calculating nutritional requirements of a healthy, as well as a sick child
- the methods of evaluation and correction of nutritional status in children.

4. Volume of discipline and types of study

General credit value of the discipline is 2 credit units.

Type of study load	Total hours	Semesters
		9
Class hours (total)	72	72
Include:	-	-
<i>Lectures</i>		
<i>Practical training (PT)</i>	36	36

<i>Seminars (S)</i>		
<i>Laboratory research (LR)</i>		
Independent work (total)	36	36
Total labor input	hours	72
	Credit Unit	2

5. Content of the discipline

5.1. The content of the discipline sections

1. Essentials of pediatric nutrition. Definitions concerning of nutrition in children. Principles of nutrition in children. Properties and composition of breast milk. The benefits of breastfeeding. The significance of nutrition in the first year of life to the subsequent health of children.

Physiology of lactation. Actions and methods that enhance and inhibit breastfeeding. Breast feeding techniques. Principles of support for (successful) breastfeeding in the WHO. Baby Friendly Hospital Initiative. Breastfeeding counseling. Contraindications to breastfeeding and early breastfeeding of the child. Causes, signs, prevention and treatment of hypogalactia.

Definition, causes, rules and timing of the introduction of supplementary foods.

Principles of artificial and mixed feeding. Principles of adaptation of instant formulas. Classification of instant formulae.

2. Malnutrition in children. Protein-energy malnutrition. Kwashiorkor. Alimentary marasmus. Diseases associated with malabsorption syndrome (cystic fibrosis, lactase intolerance, celiac disease). Paratrophy. Etiology. Pathogenesis. Classification. Clinical picture. Diagnostics. Therapy. Prognosis. Prevention. Long-term complications.

3. Disorders of the vitamin metabolism in children. Water soluble and fat soluble vitamins. Vitamin metabolism and biological functions. Hypovitaminosis. Hypervitaminosis. Etiology. Pathogenesis. Classification. Clinical picture. Diagnostics. Therapy. Prognosis. Prevention. Long-term complications.

5.2. Sections of disciplines and types of classes

9 semester

№ п/п	Name of the section of discipline	<i>L</i>	<i>PC</i>	<i>LR</i>	<i>S</i>	Ssgw	Total hours
1.	Essentials of pediatric nutrition		12			14	26
2.	Malnutrition in children		12			12	24
3.	Disorders of the vitamin metabolism in children		12			12	24
	TOTAL		36			38	72

6. Laboratory training (not provided by the curriculum)

7. Practical training (seminars)

№ п/п	№ discipline section	Themes of practical training (seminars)	Workload (hours)
1.	Essentials of pediatric nutrition	Definitions concerning of nutrition in children. Principles of nutrition in children. Properties and	12

		<p>composition of breast milk. The benefits of breastfeeding. The significance of nutrition in the first year of life to the subsequent health of children.</p> <p>Physiology of lactation. Actions and methods that enhance and inhibit breastfeeding. Breast feeding techniques. Principles of support for (successful) breastfeeding in the WHO. Baby Friendly Hospital Initiative. Breastfeeding counseling. Contraindications to breastfeeding and early breastfeeding of the child. Causes, signs, prevention and treatment of hypogalactia.</p> <p>Definition, causes, rules and timing of the introduction of supplementary foods.</p> <p>Principles of artificial and mixed feeding. Principles of adaptation of instant formulas. Classification of instant formulae.</p>	
2.	Malnutrition in children	<p>Protein-energy malnutrition. Kwashiorkor. Alimentary marasmus. Diseases associated with malabsorption syndrome (cystic fibrosis, lactase intolerance, celiac disease). Paratrophy. Etiology. Pathogenesis. Classification. Clinical picture. Diagnostics. Therapy. Prognosis. Prevention. Long-term complications.</p>	12
3.	Disorders of the vitamin metabolism in children	<p>Water soluble and fat soluble vitamins. Vitamin metabolism and biological functions. Hypovitaminosis. Hypervitaminosis. Etiology. Pathogenesis. Classification. Clinical picture. Diagnostics. Therapy. Prognosis. Prevention. Long-term complications.</p>	12

8. Material and technical support of the discipline:

№ П/П	Address № of classes	Material and technical support
1	<p>Moscow, Miklukho-Maklaya st., 10 k.2 Room № 455 Room № 155</p>	<p>Educational posters, moulage and tables; A set of video films (CD, DVD), multimedia presentations; Document cupboards A-310, walnut, locked</p>
2	<p>Moscow, st. Miklukho-Maklaya d.6 ESILC (Science Library) RUDN</p>	<p>Classrooms for the assessment of term papers, independent study, equipped with computerized equipments and connected to the Internet and with access to EIES: Co-working space, Hall №2, Hall №6</p>

9. Information support of the discipline:

During the entire training period, each student is provided with individual unlimited access to the following electronic library systems:

Databases, reference and search systems:

1. Electronic Library System (ELS) of the RUDN University and third-party ELS, to which university students have access on the basis of concluded contracts:

- Electronic library system of RUDN - ELS RUDN <http://lib.rudn.ru/MegaPro/Web>
- University Library Online <http://www.biblioclub.ru>
- ELS Yurayt <http://www.biblio-online.ru>
- ELS Elibrary <http://elibrary.ru>
- Student Consultant www.studentlibrary.ru
- ELS "Lan" <http://e.lanbook.com/>

2. Databases and search engines:

- search engine Yandex <https://www.yandex.ru/>
- search engine Google <https://www.google.ru/>
- SCOPUS database <http://www.elsevierscience.ru/products/scopus/>
- WHO center <http://whodc.mednet.ru/>

10. Educational and methodical support of the discipline:

a) Main literature

1. Practicum in pediatrics: A manual for students of the 5th year / Edited by D.Yu. Ovsyannikov, M.G. Kantemirova. - M.: RUDN, 2013. - 201 p. - ISBN 978-5-209-05482-5:89.77.

б) Additional literature

1. Pediatric Integrative Medicine: An Emerging Field of Pediatrics, 2015. 1 c. ISBN 9783038420620 URL: <http://books.mdpi.com/pdfview/book/121>

2. Lissauer Tom. Illustrated Textbook of Paediatrics / T. Lissauer, W. Carrol. - Fifth Edition - China: Elsevier, 2017. - 583 p.: il. - ISBN 978-0-7234-3871-7: 6113.30.

11. Guidelines for students on the development of the discipline (module)

For successful mastering of the discipline, students need independent preparation for practical exercises, acquaintance with the recommended basic and additional literature.

To support the educational process and the intensification of independent work of students, an electronic training course "Actual issues of neonatology" is available on in the TEIS, including theoretical material about all sections of the discipline. Questions for self-study are available there too. Access to the e-learning course is possible at any convenient time for the students. Textbooks, educational and methodical manuals of the discipline in electronic form are available on ELS RUDN.

The practical training plan includes:

1. Discussion of the lesson's topic, determination of the amount of knowledge gained by students in self-training and during the study of the Neonatology section of the Pediatrics discipline. An analysis of the most difficult issues of the studied topic carries out.

2. The solution of cases about current topic (case-method). Clinical cases allow the student to demonstrate interactively the knowledge and skills in working with a virtual patient. The student is invited to analyze the clinical situation described in the case and answer all the questions for this case. The student independently determines the patient management in a particular clinical situation and discusses with the teacher and groupmates possible diagnostic algorithms, treatment and prophylaxis. The student independently calculates the nutrition to a healthy child, and to a child with malnutrition. When solving a case, the student must answer the following questions:

- 1) Assess the level of development of the child.
- 2) Analyze clinical-anamnestic and / or laboratory-instrumental data.

3) Determine the main symptoms / syndromes of the patient.

4) How can the patient / parents / relatives of the patient be trained in case of this disease?

List the main preventive measures.

3. Demonstration of patients.

4. The current test of knowledge and successful understanding of the discipline is carried out in the form of an oral survey during practical exercises using clinical cases (case method).

The student's out-of-class study allows to master the skills of self-education, self-tutoring, and self-control in preparation for the professional activities of a doctor.

Out-of-class work for the students includes preparation for practical exercises, mastering topics for self-study.

12. Fund of estimated means for the interim assessment of students in the discipline (module)

Materials for assessing the level of development of educational material of the discipline «*Basics of child nutrition* » (estimated materials), including a list of competencies, indicating the stages of their formation, description of the indicators and criteria of assessment of competencies at different stages of their formation, the description of the scales of assessment, typical assignments, or other materials needed for the assessment of knowledge, skills and (or) experience activities that characterize the stages of formation of competences in the process of development of educational programs, instructional materials, procedures evaluation of knowledge, skills and (or) experience activities that characterize the stages of formation of competences, fully developed and available to students on the page of discipline in TUIS RUDN.

The program is compiled in accordance with the requirements of the FSES HE.

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