STATE MEDICAL AND PHARMACEUTICAL UNIVERSITY
„NICOLAE TESTEMITANU" FROM REPUBLIC OF MOLDOVA

Approved
at the meeting of the Council of
Faculty of Medicine No.2
Minutes No. 3 of 25.02.2014
Dean of Faculty of Medicine No.2
Ph.D., associate professor _____
M. Betiu

Approved
at the meeting of the Department of Pediatrics
Minutes No. 6 of 12.02.2014
Director of the Department,
MD,PhD., professor _____
N. Revenco

SYLLABUS

of the discipline Pediatrics

Name of course: Puericulture

Code of course: S.08.O.044

Type of course: Compulsory

Total hours – 70:

Lectures – 20, practical classes – 50

Number of credits – 3

Names of teachers:

Lilia Romanciuc, MD, PhD, Associate Professor
Ana Guragata, MD, PhD, Associate Professor
Angela Cintu, MD, PhD, Associate Professor
Florin Cenuşa, MD, PhD, Associate Professor
Adrian Rotaru, MD, PhD, Associate Professor
Olga Cîrstea, MD, PhD, Clinical Lecturer
Oxana Turcu, MD, PhD, Clinical Lecturer

Chisinau 2014

I. ***Aim of discipline:*** learning the peculiarities of healthy child in different periods of childhood, the laws of growth and development, the aspects of prophylactic care in children, immunoprophylaxis and nutrition in children of different ages.

II. Training objectives of the discipline:

Level of knowledges and understanding

1. Theoretical basis of Puericulture.
2. The anatomical-physiological, functional and morphological peculiarities in children of different ages.
3. Principles of nutrition in healthy children of different ages.
4. Evolution of the physiological processes in children (medicine of healthy child) growth and development, nursing, prophylaxis, social and behavioral pediatrics.
5. Methods of disease prevention in children, childhood immunization schedule in Republic of Moldova.

Level of the application

1. Anthropometric measurements in assessing physical development of children of different ages.
2. Techniques and methodologies for the collection of a case history (interview).
3. Performing a general physical examination in children of different ages.
4. Assessment of neuro-psychological development in children of different ages.
5. Assessment of nutritional status in children of different ages.
6. Prescription of the diet (food intake) in healthy children of different ages.
7. Health education of mothers.

The level of integration

1. To appreciate the importance of Puericulture as part of General Medicine and Pediatrics in the context of integration with related medical disciplines;
2. To develop knowledge and integrated approach to healthy child care arrangements, including nutrition as an important precondition for the child and adult health;
3. To promote the implementation of new knowledge and practices of nursing in future clinical work in relation to parents and carers of children;
4. To assess the role of different factors in the disease development in children;
5. To integrate the knowledge about nursing practices for the proper development of children according the recommendations / normative acts of the Ministry of Health of the Republic of Moldova in later clinical work.

III. Conditioning and preliminary requirements:

Puericulture discipline has as object of study the healthy child with the characteristics of growth and development from the conception to age of 18 years and is the basis for student training in pediatrics. Childhood is particular in human biological evolution; it begins with birth and ends with the adolescence.

The essential character of the age is concern of pediatrics in general and of puericulture specifically, the process of growth and development has two fundamental

sides: the accumulation of organic mass and differentiation, with changing of the shape and structure of different tissues and organs. The puericulture discipline justification derives from that growing body has many features that must be known in order to prevent or treat abnormalities and diseases that occur during childhood. Study of healthy child, the development particularities, nutrition, nursing, medical follow-up, including immunoprophylaxis in different periods of childhood, based on the current WHO recommendations, requires knowledge in basic sciences (anatomy, histology, embryology, physiology, pathophysiology, hygiene) and semiology of internal diseases.

IV. The content of the discipline

Lecture, practical lessons, independent work

A. Lectures

Nr.	***Theme***	***Number of hours***
1.	Pediatrics – branch of medicine. Medical assistance to children in the Republic of Moldova: principles of organization, legal basis. Groups of health. Notion of a healthy child. Indexes of health. The criterions of healthy child.	2
2.	Periods of childhood: characteristics. Risk groups in pediatrics. Risk factors. Critical periods in the development of a child.	3
3.	Child's growth and development – characteristics, specific features.	2
4.	Growth and development. Methods of assessment, techniques of examination. Integrated assessment of child's health state.	2
5.	Central nervous system: cognitive and motor development in newborn babies and infants. Neurologic development in newborn babies and infants.	2
6.	Central nervous system: neurologic, motor and cognitive development, techniques of examination of children.	2
7.	Breastfeeding, advantages, characteristics of breast milk. Feeding problems in breastfeeding and recommendations.	3
8.	Mixed and artificial feeding. Supplemental feeding. Technique and terms of introduction foodstuffs in infants.	2
9.	Feeding children over one year. Characteristics of foodstuffs used in childhood period. Daily food ration.	2
		20

B. *Practical classes*

Nr.	Theme	Content of lecture	Number of hours
1.	***Medical assistance to children in the R. Moldova. Principles of organization. Healthy child. Groups of health. Immunization (vaccination) of children.***	Pediatrics as discipline and science. Short history data. Legal basis that regulates mother and child health care. Organization of medical assistance to mother and child in the RM. Basic indices. Elements of ethics and deontology. Preconceptional, prenatal, postnatal puericulture. Healthy child. Medicine of a healthy child. Preventive pediatrics. Primary, secondary, tertiary prophylaxis. Note-book of healthy child. Follow-up of children. Children groups of health – their characteristics and significance. Active immunization (vaccination) of children. Classification of vaccines. Calendar. Indications and contraindications. Adverse reactions. Basic particularities of taking anamnesis and examination of children.	5
2.	***Periods of childhood - characteristics. Specific features in different periods of childhood.***	Periods of childhood. Antenatal period (embryonal, fetal): characteristics, follow-up of pregnant woman, risk factors. Notion of embryofetopathies. Neonatal period. Characteristics of a term newborn, premature, dysmature, posmature newborns. Integrated assessment of a newborn. Period of suckling baby. Risk factors. Groups of risk. Periods of infant child, preschool age, school age, puberty- their characteristics and significancy. Morphological and functional particularities of suckling baby and child in different periods. Critical periods in the development of a child. Measures of care (bath, walking, playing, gymnastics, higiene), strengthening, education, follow-up.	5
3.	***Child's growth and development - characteristics, specific features.***	Child's growing and development. Definitions: growth, development, maturation, acceleration. Phases of growth. Laws of growing. Mechanisms of growth and development. Factors of growth - exogenous, endogenous- characteristics and their role. Constitution. Pathologic factors. Intrauterine, postnatal growth. Indices of growth (stature, weight, skin fold, parameters). Indices of maturation. Dental, osseous maturation. Disorders of growth and development.	5
4.	***Growth and development of newborn babies and infants. Methods of assessment.***	Physical (somatic) development of a child. Methods of assessment: anthropometric, physiometric, somatoscopy. Determination of anthropometric indexes: stature, weight, parameters	5

		-techniques and rules proper for age. Normal rhythm of ponderal and stature growth. Formulae of calculation. Factors of influence. Methods of physical development assessment and evaluation: statistic methods, table of standards, somatograms, sigmal and percentile deviations and their characteristics. Diagnosis of physical development. Methods to fortify and stimulate somatic development in children. Assessment of nutrition state.	
5.	***Growth and development in children. The methods of assessment. Specific features of healthy child. Integrated assessment of child's health state.***	Child's physical (somatic) development. Methods of physical development assessment: anthropometry, physiometry, somatoscopy. Methods of physical development and valuation: somatograms, sigmal, percentile deviations and their characteristics. Indice of body mass. Diagnosis of physical development. Integrated assessment of child's health state. Sexual maturation in boys and girls. Osseous and metabolic maturation in puberty . Acceleration. Notions of malnutrition, short stature, gigantism, obesity.	5
6.	***Neurologic, cognitive and motor development in newborn babies and infants. Methods of assessment.***	Principles of psychomotor development. Neurologic development of newborn and suckling baby: factors of influence, particuliarities. Methods of neuro-psychic development assessment. Physiologic and pathologic reflex activity. Assessment behaviour: fine and rough motor activity, verbal (language), cognitive, social-affective,behavioral activity. Motor, verbal, cognitive, behavioral, social, emotional deficiencies. Assessment of abuse and negligence signs. Methods of neuropsychic development and stimulation-education in children.	5
7.	***Assessment and valuation of neuropsycho-motory development in children. Approach of adolescent in the medical practice.***	Principles of psychomotor development. Neurologic development of the child – factors of influence, peculiarities. Methods of assessment of neuro-psychic development in children over one year. Assessment of behaviour: fine and rough motor activity, cognitive, verbal (language), social-affective, behavioral activity. Motor, verbal, cognitive, social, behavioral, emotional deficiencies. Assessment of abuse and negligence signs. Methods of neuropsychic development and stimulation-education in children . Child and discipline. Assessment of adolescent in medical practice. Physical, neuropsychic development – specific features in puberty and adolescence. Alcohol, smoking, drugs in/and adolescence. Adolescent and chronic diseases. Prophylaxis of accidents and	5

		traumatism. Professional orientation.	
8.	***The particularities of feeding children. Breastfeeding, advantages.***	Elements of pediatric nutrition: energetic, nutritive, metabolic needs. Natural alimentation and its advantages. Requirements of natural alimentation. Mechanisms of milk secretion, stimulation of milk secretion. Composition and characteristics of colostrum, mature human milk. Immune factors of human milk. Technique of breastfeeding (position, application). Methods of adequate breastfeeding valuation. Nutrition of nursing mother. Contraindications, obstacles, incidents in breastfeeding . Semiology of lactation disorders. Diversification of suckling nutrition: indications, rules and calendar of introduction of various foodstuffs. Principles of making up food ration for sucklings. Indices of nutrition state assessment: ponderal, nutritional, stature index.	5
9.	***Nutrition and alimentation of children. Mixed and artificial feeding.***	Definition of mixed and artificial feeding. Rules and techniques in mixed and artificial feeding. Cow's milk, milk of other mammal: characteristics, disadvantages. Adapted dairy produces made of dried milk: classification, characteristics. Non-adapted dairy produces. Alimentary ratio, nutritive needs and their calculation, dietary regime. Incidents in artificial – mixed alimentation. Assessment of sucklings alimentation and drawing-up a correct dietary regime. Varied alimentation: general principles of variety, conditions of variety, foodstuffs for variety. Principles for drawing up a dietary ration.	5
10.	***Nutrition and alimentation of children. Feeding children over one year. Assessment of practical skills the care, development and feeding of children.***	Alimentation and nutritional needs, limits and tolerances. Quantitative (caloric) and qualitative ration (proteins, lipids, glucides, alimentary fibers, minerals, water, vitamins). Essential nutritive factors. Water balance and distribution of water in child's organism. Needs in liquids in children according to age. Principles of preschool, school children alimentation: drawing-up a dietary ration, physiological needs, range of produces, volume, rules. Interdicted alimentations. Calculation of nutrition. Assessment of nutrition state.	5
			50

C. List of practical skills in the discipline

1. Make the conclusion based on the history of the disease.
2. Reveal risk factors based on the history of life of the child.
3. Attribute the child to one of the groups of health.

4. Assess the immunization profile of the child.
5. Give necessary recommendation regarding the individual immunization schedule of the examined child.
6. Assess the degree of physical development using mathematical methods (formulas).
7. Assess the degree of physical development using percentile method.
8. Evaluate anthropometric indexes of the examined child (nutritional index, ponderal index, statural index).
9. Assess motor development of the examined child.
10. Evaluate the speech development degree of the examined child.
11. Assess the proportionality of the child's physical development.
12. Calculate child's necessary needs in nutrients (proteins, fats, carbohydrates, calories).
13. Calculate the necessary food amount and number of feedings per 24 hours for the examined child.
14. Prescribe the daily feeding schedule for the examined child who is breastfed.
15. Prescribe the daily feeding schedule for the examined child who is on artificial nutrition.
16. Prescribe the daily feeding schedule for the examined child who is on mixt feeding.
17. Prescribe the daily feeding schedule for the examined child who is older than one year of age.
18. Assess the cognitive development of the examined child.

V. Bibliography:

1. Barbara Bates. Guide to Physical Examination and History Taking, Lippincott Company. 2003, p. 714
2. Kliegman: Nelson Textbook of Pediatrics, 18th edition. ISBN-13, p. 2457.
3. Lection on the theme.
4. Maydannic V.G. Propedeutics of pediatrics. Kharkiv National Medical University. 2010, p.348

Further Reading

1. Susan M., White, Andrew J. Washington Manual TM of Pediatrics, The, 1st Edition,2009, Lippincott Williams & Wilkins.
2. Colin D. Rudolph. Rudolphs Pediatrics, The 21 st Edition, 2003

VI. Teaching and learning methods:

Puericulture discipline is taught in classical manner: lectures and practical classes. The theoretical lectures will be hold by the course holders. Practical classes take place in the university clinics and students will study and apply procedures for anthropometric, clinical, morphological and functional evaluating in children of all ages, will learn age-specific care techniques, including immunoprophylaxis and medical follow-up, proper nutrition. It will be used modern teaching methods, including discussion and analysis of clinical cases, practical work at the patient, working with medical records of patients from hospital.

VII. Suggestions for individual work:

For learning clinical discipline of puericulture is required a proper training in the fundamental science and in semiology of internal diseases, systematic learning of theoretical material taught in lectures, and active involvement in practical classes. Within these you will apply theoretical knowledge to bedside and will develop practical skills for assessing the physical and neuropsychological development parameters, will assess the level of development, you'll practice in recommendations on nutrition, nursing and immunoprophylaxis. Discipline can be taught successfully only through knowledge of the theoretical material, active participation in discussions of appropriate practical exercise, including the writing of diploma thesis. For this purpose we recommend the following:

1. Attend all lectures and practical classes provided not only for the presence, try to use your time more effectively (listen carefully to the teacher, note the most important topics, clarify questions or uncertainties you may have on the topic);
2. Come to practical classes with "homework done", study theoretical material, note in the workbook the most important information for practical application (formulas, evaluation criteria, classifications and rules), formulate questions on topics less understood;
3. Participate actively in discussions of clinical case: try to make your own opinion on each patient presented by your colleagues;
4. Do not hesitate to ask teacher questions, it will help you to get a clear picture on the discussed subject and will prove that you have learned the material;
5. Pay more time to the individual work: puericulture, as medicine in generally is not learned "on the fly".

VIII. Assessment methods:

Current: Daily checking of theoretical knowledge, practical skills, perfecting medical documentation, multiple choice test, pediatric clinical observation sheet, case presentation, totalisation (formative assessment), as follows:

- Totalization 1: Child growth and development (written subjects, practical);
- Totalization 2: Nutrition of healthy children. (written subjects, written test, practical problem).

Assessment of practical skills acquired during the course is made in the last day of the practical lessons. Assessments of practical skills include 2 samples:

a) examination of a patient with assessing and presenting signs / practical maneuvers, appreciation of the physical, neuro-psychological, as elaborated tickets

b) assessment of child nutrition and correct prescription of the diet (food intake).

The conclusions are formulated and argued in writing.

Puericulture discipline exam is one combined consisting of test (variant, Test Editor "SMPU, Nicolae Testemitanu") and oral exam. The sample of test consists of 100 tests in all subjects of Puericulture (40 tests are simple choice and 60 multiple choice tests). The student has two hours to respond to the test. Sample is marked from 0 to 10.

The oral test includes knowledge exposure on topics from tickets. Each ticket is composed of three topics. Topics for exam (tests and the list of subjects for the oral test) are presented to the students at least one month before the session.

The final grade consists of the following components: annual average mark (coefficient 0.3), practical skills (coefficient 0.2) multiple-choice test (coefficient 0.2) oral test (coefficient 0.3).

Knowledge is assessed with marks from 10 to 1 without decimals as follows:

- Grade 10 or 'excellent' (equivalent ECTS - A) will be given for acquiring 91-100% of the material;
- Grade 9 or 'very good' (equivalent ECTS - B) will be given for acquiring 81-90% of the material;
- Grade 8 or 'good' (equivalent ECTS - C) will be given for acquiring 71-80% of the material;
- Grade 6 and 7 or 'satisfactory' (equivalent ECTS - D) will be given for acquiring 61-65 and 66-70% respectively of the material;
- Grade 5 or 'weak' (equivalent ECTS - E) will be given for acquiring 51-60% of the material;
- Grade 3 and 4 (equivalent ECTS - FX) will be given for acquiring 31-40% and 41-50% of the material;
- Grade 1 and 2, or 'unsatisfactory' (equivalent ECTS - F) will be given for acquiring 0-30% of the material;

Method of the grades rounding

The sum of notes from current assessments and final examination	Final grade
5	5
5,1-5,5	5,5
5,6-6,0	6
6,1-6,5	6,5
6,6-7,0	7
7,1-7,5	7,5
7,6-8,0	8
8,1-8,5	8,5
8,6-9,0	9
9,1-9,5	9,5
9,6-10	10

The absence from the examination without good reason is recorded as 'absent' and is equivalent to the grade 0 (zero).

The student is entitled to two repeated attempts of the failed exam.

IX. Language of instruction:
Romanian, Russian, English, French.