



Study program: Integrated Academic Studies in Medicine
Course title: Nutrition of Healthy and Unhealthy Child
Teacher: Marija V. Knežević Pogančev, Aleksandra S. Stojadinović, Jovanka L. Kolarović, Vesna D. Stojanović, Ivana I. Kavečan, Gordana V. Vijatov Đurić, Slobodan D. Spasojević, Rastislava A. Krasnik, Jelena S. Zvekić Svorcan, Vesela L. Milankov, Anna S. Uram Benka, Tatjana M. Puškar, Aleksandra M. Matić
Course status: elective
ECTS Credits: 3
Condition: Paediatrics
<p>Course aim</p> <p>The main goals of the course <i>Nutrition of healthy and unhealthy child</i> is to get familiar medical students with specificities of the nutrition of the population up to the age of 18 years (healthy child), as well as to discuss and acquire knowledge of clinical manifestations, differentially diagnostic procedures and therapy of nutritional disorders of this age (sick child) as well as dietary options for certain pathological conditions. Educating physicians in general practice for proper access to the nutrition of this specific population.</p>
<p>Expected outcome of the course:</p> <p>During their classes, students will acquire all the necessary knowledge about the role of specific nutrients in health and disease, the nutritional needs of children, the ability to assess the nutritional status of paediatric patients, and to understand and know the nutrition techniques for these patients. Information in the field of pathogenesis, clinical imaging and therapeutics of nutritional disorders occurring in the population from birth up to 18 years. Particular attention will be paid to the importance of preventive medical measures and procedures in order to provide adequate nutrition to support the normal growth and development of child. Proper access to and communication with the patient from birth up to 18 years and members of their family. Specificity of anamnesis, examination and specificity of diet in this population. Particularities of physicians' work in outpatient clinics. Planning and teamwork at child and youth counseling centers.</p>
<p>Course description</p> <p><i>Theoretical education</i></p> <ol style="list-style-type: none"> 1. Paediatric nutrition 2. Assessment of the child's nutritional status 3. Assessment of the infant's ability to feed 4. Nutritional needs of children 5. Planning a healthy child's diet 6. Nutrigenetics 7. Functional food 8. Newborn's nutrition 9. Infant's nutrition 10. Nutrition of toddler, preschool and school child 11. Pathophysiology of malnutrition and obesity 12. Eating disorders in children 13. Specific nutrient deficiencies, including vitamins, minerals, trace elements and fatty acids 14. Special diets 15. Enteral nutrition 16. Parenteral nutrition 17. Nutrition counseling and the role of teamwork for nutritional support 18. Eating disorders in gastrointestinal tract diseases 19. Eating disorders in liver and pancreatic diseases 20. Nutrition of children with hemato-oncological diseases 21. Nutritional allergy and other sensitization to food 22. Hereditary diseases of metabolism 23. Diet of children with cystic fibrosis 24. Diet of a child with diabetes 25. Nutrition of a child with nephrological disorder

26. Nutrition of children with cardiac disease
27. Diet of a critically ill child
28. Nutrition and oral health
29. Nutritional problems in children with neurological impairment and psychiatric disorder
30. Food security

Practical education

1. Know the importance of proper nutrition in childhood on the health of an adult
2. Know the basics of normal growth and body mass index, nutritional status assessment; be familiar with the different types of growth norms available and how they are used; know the basics of normal feeding depending on age; be familiar with artificial feeding routes
3. Know the physiology of nutrient digestion, their absorption, metabolism and elimination from the body
4. Develop a diet plan for a child of different ages and physical activity
5. Know the concept of personalized nutrition, functional foods, balanced diets and biologically active compounds in foods
6. Know the types and ways of eating a healthy preterm and term newborn, infant, toddler, preschool and school child
7. Identify and treat eating disorders, malnutrition and obesity
8. Identify and treat eating disorders, including anorexia nervosa and bulimia
9. Identify and treat specific nutrient deficiencies, including vitamins, minerals, trace elements and fatty acids
10. Know the theory and technique of special diets for religious and sociological reasons
11. Know the indications and contraindications for starting enteral nutritional support, knowing the composition of various preparations for enteral nutrition
12. Know the indications and contraindications for starting parenteral nutritional support, knowing the composition of different solutions for parenteral nutrition
13. Acquisition of skills in cooperation with other specialists; understand the role of nutrition support teams in the hospital and in the community, as well as the roles of individual team members
14. To get familiar with eating disorders in liver and pancreatic diseases, dysphagia, digestive tract inflammation, short bowel syndrome, motility disorders and the like; identify and treat anemia for iron deficiency; nutrition planning for children with sickle cell anemia and thalassemia; the use of elimination diets in food sensitization; to know the basic principles of diet in phenylketonuria, glycogenosis and other congenital disorders of metabolism, in children with cystic fibrosis, diabetes, nephrotic syndrome, renal failure, heart failure; basic principles of nutrition for a critically ill child; understand the importance of proper nutrition in the prevention of dental erosion: know the indications for the use of fluorine supplements; identify eating disorders based on dental examination; nutrition planning for children with neurological impairment and psychiatric disorders; indications and significance of ketogenic diet
15. Know the factors that influence and threaten food safety: infectious agents, pesticides, industrial chemicals, toxins, antimicrobial preservatives, irradiation, genetically modified food

Literature

Compulsory

1. Robert M, Kliegman RM, Geme JS. Nelson Textbook of Paediatrics, 21st Edition, International Edition: 2-Volume Set; Elsevier Science, 2019
2. Ronald E, Kleinman RE, Greer FR. Paediatric Nutrition, 7th Edition, AAP Committee on Nutrition 2013

Number of active classes	Theoretical classes: 15	Practical classes: 30
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Teaching methods

Lectures. Practical classes: medical history, physical examination of a healthy child and patients with eating disorders, differential diagnostic and therapeutic considerations for eating disorders with case reports, counseling and nutrition planning for a healthy (newborn, infant, young child, preschool and school child, adolescent, athlete, vegetarian)) and a sick child (liver and kidney failure, hereditary metabolic diseases, nutritional allergies, diabetes mellitus, etc.)

Student activity assessment (maximally 100 points)

Pre-exam activities	points	Final exam	points
Lectures	10	Written	20
Practices	10	Oral	50
Colloquium		
Essay	10		