DESCRIPTION OF COURSE UNIT FOR DOCTORAL STUDIES AT VILNIUS UNIVERSITY

Scientific Area/eas, Field/ds of Science	Medical and Health Sciences (M 000): Medicine (M 001)			
Faculty, Institute, Department/Clinic	Faculty of Medicine Institute of Clinical Medicine Clinic of Children Diseases			
Course unit title (ECTS credits, hours)	**Paediatric Infectious Diseases and their control (PID)** 7.5 credits (200 hours)			
Study method	**Lectures**	**Seminars**	**Consultations**	**Self-study**
Number of ECTS credits	**-**	-	0,75	6,75
Method of the assessment (in 10 point system)	Examination: face-to face and in written. Three theoretical questions and clinical/scientific situation is given to examinee. In case when PID exam is an entry exam to the PID doctoral studies, instead of clinical/scientific situation, examinee is requested to present the report on specific topic approved by co-ordinating lecteurer. Examinee is requested to review and present the latest scientific publications on the specific topic. Criteria for the evaluation of the report are as follows: • Formulation of the analysed problem; • Methodology of the selection of the sources of information; • Interpretation of the data from the sources of information. Evaluation of the reliability of the data, discussion on the controversies; • Main ideas for the forthcoming doctoral research.			

PURPOSE OF THE COURSE UNIT

PID course unit is proposed to the candidates for PhD studies in paediatric infectious diseases, paediatrics, family medicine of other doctoral studies, related to the child health. This course unit covers peculiarities of the anatomy, physiology and immunology of the childhood, basics of the epidemiology and specific issues of PID, issues of the epidemiology, clinical manifestation, diagnosis, treatment and prevention of the PID.

THE MAIN TOPICS OF COURSE UNIT

Understanding of human microbiome. Microbial colonisation of the newborn, influencing factors. Peculiarities of the immunity in childhood. Development of the immune system of foetus and newborn. Immune mother-foetus and mother-infant interaction. Health during pregnancy and immunity of the newborn.

One world hypothesis. Complexity and interaction of microorganisms in the human and living environment. Effects of human activities on the permeability of the interspecific barrier of microorganisms.

Congenital infections: early signs, clinical diagnosis, laboratory confirmation.

Epidemiology of the infectious diseases in childhood. Epidemic process and main directions of communicable disease control. Pathways of intestinal infections and directions of prevention; Peculiarities of the epidemiology of non-vaccine preventable and controlled airborne infections; peculiarities of epidemiology of transmissible infections in children. The role of children's collectives in the spread of infections.

Main syndromes of infectious diseases in children. Pathological syndromes of the gastrointestinal tract and respiratory system. Differential diagnosis of infectious diseases in children with rash.
Measles. Epidemiology, clinic, diagnosis, treatment. Complications and their treatment. Measles as an infection targeted for eradication.
Mumps. Epidemiology, clinical forms, complications.
Rubella. Problems of modern rubella.
Chickenpox. *Varicella zoster* infection (chickenpox, shingles) as a problem in modern society. Clinical features of herpes virus infection in children.
Infectious mononucleosis. Clinic, diagnosis and treatment.
Parvovirus infection.
Influenza. Peculiarities of pediatric influenza epidemiology, clinic, treatment. Protecting babies and children from the flu.
Viral respiratory infections. Viral laryngitis: diagnosis, differential diagnosis, first aid, treatment.
SARS-CoV-2 infection in children: epidemiology, the role of children in SARS-CoV-2 epidemic processes. Clinical features, outcomes of SARS-CoV-2 infection in children.
Meningitis. Clinical forms of meningococcal infection and age characteristics of children, prevention. *H. influenzae* B infection Treatment and prevention of invasive HiB, its clinical forms. Infection with atypical strains of *H. influenzae*.
***S. pneumoniae* infection**. The most common forms of pneumococcal infection in children, their diagnosis, treatment and prevention.
Streptococcal infection in children. Scarlet fever.
Pertussis. Epidemiology, clinic and diagnostics in modern society. Parapertussis. Diagnosis and treatment of pertussis.
Diphtheria. Epidemiology of diphtheria in modern society. Paediatric diphtheria clinical manifestations, treatment and prevention.
Bacterial intestinal infections in children: salmonellosis, shigellosis, escherichiosis, campylobacteriosis, yersiniosis, pseudotuberculosis: epidemiology, clinical manifestations, diagnosis and treatment.
Viral diarrhoea. Epidemiology, clinic, diagnosis, treatment, prevention. Oral rehydration and other pathogenic agents for the treatment of intestinal infections in children.
Viral hepatitis. Epidemiological and clinical features of viral hepatitis in children; biochemical and virological diagnostic methods for viral hepatitis. Chronic viral hepatitis. Prevention of viral hepatitis.
Peculiarities of HIV infection in children.
Methods of laboratory diagnosis of infectious diseases in children. Bacteriological and virology tests, other methods of identification of microorganisms, traditional and express serological tests.
Antimicrobial therapy. Rational use of antibacterial drugs for the treatment of infectious diseases in children. Development of antimicrobial resistance in microorganisms and methods for reducing resistance.
Antivirals, their use in the treatment of infectious diseases in children.
Biological preparations: eubiotics and probiotics, their place in treatment programs for infectious diseases in children.
Serums. Homogeneous and heterogeneous immunoglobulins and sera in treatment and prevention of infectious diseases in children.
Immunoprophylaxis. National Immunisation Program; Vaccines on the Lithuanian market, indications for their vaccination. Post-vaccination events and contraindications to vaccination. Registration of post-vaccination events and vaccine safety control systems. Analysis of anti-vaccination movements, communication with the public on vaccination issues.

Prevention and control of communicable diseases in travellers. Protection against infectious diseases of families traveling with children. Immigrants, their role in the spread of communicable diseases and communicable disease control measures for emigrants.
"Childhood" infections in adults. "Childhood" infections in adolescents and adults: causes, spread and diagnosis, prevention.

RECOMMENDED LITERATURE SOURCES

1. Feigin and Cherry's Textbook of Pediatric Infectious Diseases. 8th Edition - December 29, 2017
2. Principles and Practice of Pediatric Infectious Diseases, 5th Edition, by Drs. Sarah Long, Charles Prober, and Marc Fischer, 2018 Elsevier. https://doi.org/10.1016/B978-0-323-40181-4.00296-6
3. Nelson Textbook of Pediatrics, twentieth edition. 2016 by Elsevier, Inc.
4. Pediatric Vaccines and Vaccinations. A European Textbook, edited by T. Vesikari and P. Van Damme, Springer Nature, 2021 (https://link.springer.com/book/10.1007/978-3-030-77173-7?msclkid=d9b5739abb0f11ecb2f5ed5ea0b80a43)
5. Red Book: 2021–2024 Report of the Committee on Infectious Diseases, 32nd edition. https://doi.org/10.1016/B978-0-323-40181-4.00296-6
6. Nelsons Pediatric Antimicrobial Therapy, Ed.J.S.Bradley, American Academy of Pediatrics, 2019
7. World Health Organisation. https://www.who.int
8. European Center for Communicable Diseases Prevention and Control https://www.ecdc.europa.eu
9. Center for Communicable Diseases Prevention and Control, Atlanta (USA) https://www.cdc.gov
10. ClinicalKey - Lead with Answers. https://www.clinicalkey.com/#!/ Only available on VU network. You can connect to the VU network using a VPN servise.
11. Cochrane Reviews | Cochrane Library https://www.cochranelibrary.com/ Only available on VU network. You can connect to the VU network using a VPN servise.

CONSULTING LECTURERS

1. Coordinating lecturer: Inga Ivaskeviciene (Assist. Prof. Dr.).
2. Indrė Stacevičienė (Assist. Prof. Dr.).
3. Sigita Petraitienė (Assoc. Prof. Dr.).

APPROVED:

By Council of Doctoral School of Medicine and Health Sciences at Vilnius University: 29th of September 2022

Chairperson of the Board: Prof. Janina Tutkuvienė