

MBBS Final Year Curriculum Paediatrics

(2022-23)

National University of Medical Sciences

Pakistan

1. Context/Preamble:

Paediatrics is an integral part of the undergraduate curriculum. Basics of paediatrics is established in the initial years through contribution from basic sciences. It is being taught as a major subject in last three years.

2. Mission

To equip the average student with minimum essential knowledge, skill and attitude so as to enable them to manage patients appropriately.

3. Competencies

- a. Communication skills
- b. Critical thinking
- c. Problem solving
- d. Clinical skills
- e. Examination skills

4. Course Outcomes

To equip them with essential knowledge, skill and attitude in order to enable them to:

- a. Diagnose common Pediatric problems, suggest and interpret appropriate investigation, rationalize treatment plan and if appropriate, refer patient for specialist opinion/ management.
- b. Suggest preventive measure for the common public health problem in the community
- c. Perform relevant procedures
- d. Convey relevant information and explanations accurately to patients, families, colleagues and other professionals
- e. Participate effectively and appropriately in an inter professional health care team
- f. Understand medical ethics and its application pertaining to paediatrics and maintain the confidentiality of the patient.
- g. Adapt research findings appropriately to the individual patient situation or relevant patient population

5. Expectations from students

- a. Be professional in behavior and dress code when communicating with patient and his/her family
- b. Respect patient and their family's wishes along with social and cultural norms
- c. Examine patients with their permission in the presence of chaperon
- d. Inculcate behavior of regular self-learning for academic sessions & clinical problem encounters
- e. Keep yourself abreast with current relevant information about your patients
- f. Document and update patient's progress in his/her file regularly

6. Teaching hours - Paeds

Sessions	YEARS	CONTACT HOURS
2018-2019	V	200
2019-2020	IV	65
2020-2021	III	35

7. Learning Strategies & Situations

A variety of pedagogies are used in this course, including didactic teaching, team-based and evidence-based learning in class rooms and patient side environment. Students are encouraged to adopt and inculcate self-learning strategies during the course

8. Learning Opportunities

- a. Interactive lectures
- b. Teaching Ward Rounds
- c. Case presentations
- d. Case based Discussion
- e. Short cases in OPD
- f. Bedside Discussion
- g. Small Group Discussion
- h. Workshops (Neonatal resuscitation, fluid & electrolyte balance and Oxygen therapy)
- i. Self-learning Activities
- j. Skill Lab Activity

9. Venues for learning opportunities

- a. Outpatient clinic
- b. Emergency room
- c. Inpatient ward
- d. Tutorial room
- e. Libraries including audio-visuals

10. Specific Learning Outcomes

Learning outcomes specific to the Paediatrics course have been tabulated below in the table of specification and matched with educational strategies.

11. Implementation of curriculum

*The university will give details of all content including learning outcomes and table of specifications,

distribution of which across the three years and rotations is upon the discretion of the medical

college/institute. Rotation plan is devised by the institute itself

12. Attendance & Discipline:

- a. A record of attendance of medical students, test results, end of module/rotation test result, workshop marks should be updated regularly.
- b. Each Head of unit would keep a log of all clinical activities
- c. Attendance of each student would be endorsed in his logbook as well.
- d. Overall 75% attendance is mandatory to appear in final professional exam

13. Assessment

Assessment is an important aspect of any training program which not only includes assessment of students but also of the training program itself. The performance of each student would be marked and counted towards final internal assessment. The following tools/ methods would be used for this purpose:

- a. Theory
 - Periodical class tests

- End of block/ Rotation Exams: At the end of each clinical rotation, a theory exam would be held from the syllabus covered during this period
- b. Practical
 - **Log Book**: Each student would complete his log book and get it countersigned from HOD at the end of each rotation. Log book is maintained during the rotation
 - End of Rotation Exams: At the end of each clinical rotation, a clinical exam would be held
 - Workshops: Three Workshops (Neonatal resuscitation, fluid & electrolyte balance and Oxygen therapy) will be held during the rotation. In addition, students will also attend a Basic Life Support (BLS) workshop (only attendance is required to get marks)
- c. Internal assessment. There will be 10% internal assessment for session 2018-19
- d. **Professional exam**. Professional exam of Paediatrics will be held in final year. There will be 100 marks theory paper and 100 marks of practical. Student has to pass theory and practical separately with minimum 50 % marks. However, in clinical subjects, student should pass in clinical exams / OSCE (with 50% marks) and unobserved stations (with 50% marks) separately

14. Evaluation of the Course

- Student portfolio should be maintained in the department in which students should give their feedback either by name or anonymously
- Faculty suggestions, if any, for improvement of training may be incorporated in the next rotation

15. Recommended Readings

- Basis of Paediatrics
- Current Pediatric Diagnosis & Treatment
- Harriet & Lane Handbook of Paediatrics
- Paediatrics illustrated text book

Themes	Topics	Learning Outcomes		Educational	Weighting	Assessment Tools
		Knowledge	Skill/Attitude	Strategies	51	
		I. IMMUNI	ZATION AND NUTRITION	.00		
Immunization	 EPI Schedule Vaccine administration 	 Students should be able to Discuss the importance of immunization in healthcare field and identify vaccine preventable diseases. Tabulate the EPI immunization schedule Recognize important global vaccine preventable diseases. Discuss the childhood immunization plan according to age of child. 	Administer EPI vaccine to infants	Lecture demonstration in OPD		MCQ/SAQ/OSCE
Nutrition	 Basis of Pediatric Nutrition Breast feeding, infant feeding, weaning Protein Energy Malnutrition IMNCI Malnutrition Rickets Micronutrient/ vitamin deficiency 	 Assess nutritional status based on feeding history and clinical examination Interpret anthropometry, basic hematological and biochemical indices to identify basic dietary deficiency. Identify the causes, clinical presentation of child with PEM. 	 Perform mid upper arm circumference and skin fold thickness to estimate body composition. Take weight, length, OFC of children. Calculate BMI advise appropriate nutritional 	Bedside Teaching CBL Lecture Demonstration in OPD		Short case Long Case OSCE

		 Discriminate the assessment findings and laboratory findings of kwashiorkor and marasmus. Formulate the treatment plan for PEM. Identify the causes and clinical signs of micronutrient deficiency 	 measures for healthy and sick children (Breast feeding, avoidance of bottle, proper weaning) Identify signs of micronutrient deficiencies Doses of vitamins/ micronutrients for treatment of deficiency and maintenance therapy 		
		II. GROWT	H AND DEVELOPMENT		1
Genetics	Patterns of inheritance Down syndrome Common genetic disorder/malformation	 Recall Patterns of inheritance Diagnose Down Syndrome Diagnose common malformations 		Bedside Teaching CBL Lecture Demonstration in OPD	MCQ/SAQ/OSCE
Growth and development	 Developmental Milestones Anthropometry 	 Student should be able to Recognize growth development and maturation. Justify use the tools for measuring growth and development. 	 Plot weight and height on centile charts To identify age appropriate centile charts. Demonstrate use of weight and 	Lecture demonstration in OPD	MCQs SEQs OSCE
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		 Identify the genetic, nutritional and environmental factors that can influence child growth and development. Demonstrate effective skills aspects when communicating with children of various ages and family caregivers 	
		III. RESPIRATORY SYSTEM	
Respiratory	Stridor	Student should be able to Differentiate Lecture Short case	e
Diseases	Diphtheria' Pertussis ARI (Acute respiratory infections) IMNCI Guidelines Asthma Pneumonia Tuberculosis (Pulmonary) Bronchiolitis Pleural effusion Cystic fibrosis Foreign body aspiration	 Discuss the clinical presentation and common etiology of acute respiratory infections. Generate differential diagnosis and choose appropriate lab investigations for acute respiratory infections. Devise management plan for pneumonia, para pneumonic effusions and empyema. Justify factors that predispose children to TB. Interpret laboratory diagnosis and choose appropriate appropriate presentation and choose appropriate appropriate appropriate appropriate appropriate appropriate appropriate between stridor and pertussis, TB using the necessary precautionary measures Devise management plan for pneumonia, para pneumonic effusions and empyema. Justify factors that predispose children to TB. Interpret laboratory diagnosis and choose appropriate approp	-
	14.	Pag	ge 7

		 investigations for diagnosing TB. Manage the Complications of TB in children. Differentiate between pertussis and diphtheria. Diagnose acute exacerbations of asthma Propose management plan for acute exacerbation of astham. Discuss the steps of asthma management according to GINA guidelines 		281/032	
Infections	 Measles (Plus IMNCI) Mumps Chickenpox Rheumatic Fever Infective Endocarditis Malaria/ cerebral malaria (+IMNCI) Enteric Fever Meningitis Encephalitis 	 Recognize the incidence and etiology of Measles, Mumps and Rubella. Identify the clinical presentation of Enteric fever. Develop management plan for enteric fever Develop management plan for Encephalitis, Poliomyelitis, Croup, Tetanus and AGE 	Perform Immunization	CBL Lecture Demonstration in OPD	MCQs SEQs Short case Long case
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	 Poliomyelitis Croup Tetanus AGE Ear infections HIV Dengue Rabies 	 Develop management plan for suspected Enteric fever Elaborate complications and Preventive measures of Enteric fever. Correlate pathological changes induced by malarial parasite to the clinical presentation and complications of different types of malaria in children. Develop management plan for Malaria in children Identify the clinical presentation of HIV infection in children 	
		V. GASTROINTESTINAL TRACT	
Gastroenterol ogy	 Acute Gastroenteritis IMNCI Diarrhoea Recurrent abdominal pain Acute hepatitis Chronic Liver Disease Chronic Diarrhoea Dysentery Celiac Disease 	 The student should be able to Differentiate between organic and inorganic causes of recurrent abdominal pain Identify signs and symptoms of hepatitis Demonstrate use of hand hygiene Demonstrate use of hand hygiene CBLs Ward Teaching Ward Tea	
		Page	9

	 Malabsorption Worm infestation Giardia Amoebiasis Pharyngitis, upper respiratory tract infections Otitis media (plus IMNCI) 	 and hepatic encephalopathy Identify the clinical presentation of malabsorption. Identify the signs and symptoms of gluten enteropathy/ coeliac disease Identify the clinical presentation of Worms infestation, Giardia and Amoebiasis Describe the treatment options of Worms infestation, Giardia and Amoebiasis Correlate the common causes of diarrhoea to the pathophysiological changes seen in acute and chronic diarrhoea. 	NEONATOLOGY		
Neonatology	 Normal newborn Common birth injuries Infant of diabetic 	 demonstrate understanding of the normal growth of newborn 	Demonstrate stepwise resuscitation protocol in newborn	Lectures CBLs Workshops (Resuscitation)	MCQs SEQs TOACS

	 Neonatal Jaundice Neonatal Sepsis Low birthweight/ Preterm Neonatal Convulsions Vomiting in newborn Resuscitation of Newborn Respiratory disorders of newborn Birth Asphyxia Hemorrhagic diseases of the newborn TORCH infections Respiratory Distress Syndrome Necrotizing Enterocolitis Hypoxic Ischaemic Encephalopathy 	 Identify need for resuscitation in newborn and risks of birth asphyxia Explain APGAR scoring system Recognize signs and symptoms of neonatal jaundice. Plan treatment of neonatal jaundice and its complications of neonatal jaundice Devise treatment plan for neonatal convulsions based on the etiology. 	 Perform initial steps of resuscitation Perform ambu bagging and ventilation Perform cardiac compressions in neonates Recognize jaundice in neonates Recognize signs of bilirubin encephalopathy Identify minor & major malformations in neonates CARDIOLOGY 		
Congenital and Acquired Heart Disease	 Acyanotic Heart Diseases Cyanotic heart 	 Student should be able to Differentiate between cyanotic and acyanotic 	 Identify clinical signs of CCF in children 	Lectures CBLs Bedside	MCQs SAQs Long case
	disease	neart diseases		Learning	Short case

	Rheumatic Heart Disease cardiomyopathy	 pediatric CCF to its clinical presentation. Identify common pediatric cardiac failure syndromes Discuss the treatment of CCF Identify clinical features of rheumatic heart disease 			
		VIII. CENTR	AL NERVOUS SYSTEM		
-				1	
CNS Diseases	 Febrile Seizures Epilepsy Meningitis Cerebral Palsy Acute Flaccid Paralysis Ataxia & movement disorders Neurodegenerative disorders Neuromuscular disorders Floppy infant 	 Student should be able to Identify diagnostic criteria for febrile, afebrile seizures and status epilepticus. Recognize trends related to epilepsy and seizure management. Identify different types of CP Identify various causes of meningitis in different age groups Plan management of meningitis in children Recognize various forms of acute flaccid paralysis 	 Recognize tonic/clonic epileptic seizure Manage seizures in hospital setting Perform lumbar puncture Examine motor system of children Identify hypotonia on examination 	Lectures CBLs Bedside	MCQs SEQs Long case short cases

Psychological Paediatrics	Enuresis, Encopresis, hyperactivity, Dyslexia, attention deficit order, child abuse, right of child	 Identify Ataxia & movement disorders, Neuromuscular disorders and Neurodegenerative disorders Recognize hypotonia in children To enlist causes of hypotonia in children Recognize these disorders in children To enlist causes of these disorders in children 		Lectures CBLs Bedside	MCQs SEQs Long case short cases
		IX. E	NDOCKINOLOGI		
Endocrinology	 Diabetes Mellitus DKA Hypothyroidism Short stature Addison disease Cushing Disease Congenital adrenal hyperplasia 	 The student should be able to: - Identify common endocrinological diseases Develop management plans of short stature due to various causes 	Perform anthropometry and plot it on growth charts	Lectures CBL	MCQs SEQs Short cases
	(Х.	BLOOD		
Hematology	Common anemias (IDA, etc.) (plus IMNCI anemia) Thalassemia	 The student should be able to Explain classification and causes of anaemias. 	 Identify pallor, lymphadenopathy, visceromegaly in 	CBL Lectures Bedside Teaching	MCQs SAQs Long case
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Malignancies of childhood	Hemolytic anemias G6PD deficiencies Hereditary Spherocytosis Bleeding disorders Aplastic anemia ITP ALL AML CML CLL Lymphoma • Neuroblastoma • Wilms tumour	 Classify bleeding disorders in children Generate differential diagnosis based on Interpretion of investigations Discuss management of anemias with special reference to nutritional rehabilitation The student should be able to Describe the epidemiology of childhood malignancies Identify different types of malignancies in children Recognize the clinical presentation of the most common pediatric cancers Interpret laboratory findings indicative of a possible cancer diagnosis Determine the approaches to cancer 	 children on clinical examination Clinically differentiate between petechiae, bruises and purpura. Counsel mothers on proper nutrition Perform the clinical assessment of a child with cancer 	Lectures Bedside teaching	MCQs SEQs
		treatment			
		XI. NEPH	ROLOGY/ UROLOGY		
Renal Diseases	UTINephrotic SyndromeAKI	Differentiate nephrotic and nephritic syndromes	 Perform and interpret dipstick urine 	CBL Bedside Teaching	MCQs SEQs Short & Long case
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	• CKD • APSGN	 Manage nephrotic and nephritic syndrome according to Interpretation of initial investigations Recognize complications of common renal diseases in children. 	 Measure Blood Pressure of a child. Perform clinical examination of child with edema. Poisoning 	Lectures	
Childhood Poisoning	Poisonings Snake bite	 Differentiate the various types of poisoning and their signs and symptoms Define the goals of treatment Appraise the pharmacological basis for enhancing elimination of drugs and use of specific antidotes 	 Perform stomach lavage in children with poisonings 	Lectures Bedside Teaching	MCQs
		XIII, Pa	aediatrics Surgery		
Paeds Surgery	Intestinal atresia Intussusception Hernia Tracheo Esophageal Fistula Hirschsprung Disease TEV DDH Cleft lip & Palate	To identify the management of these diseases	 Recognize TEV DDH Cleft lip & palate myelomeningocele, hydrocephalus in children 	Lecture Bedside Teaching	Short caseTOACS

	Vesico ureteral reflux, pyloric stenosis, myelomeningocele, hydrocephalus, birth trauma		5	
Bone and Rheumatologi c disorders	Osteomyelitis Juvenile Idiopathic Arthritis (JIA) Kawasaki Disease SLE			

Procedural skills:

Observe the Following Procedures:

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Observe the Following Procedures:	
Lumbar Puncture	Pericardiocentesis
Bone marrow aspiration	Liver Biopsy
Supra pubic puncture	Renal biopsy
Subdural tap	Passing of catheter
Thoracocentesis	Pericardial tap