Multisystem-II
Final Year MBBS

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Khyber Medical University (KMU) Vision:

Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

Khyber Medical University (KMU) Mission:

Khyber Medical University aims to promote professional competence through learning and innovation for providing comprehensive quality health care to the nation.

Institute of Health Professions Education & Research (IHPER) Mission:

To produce leaders, innovators and researchers in health professions education who can apply global knowledge to resolve local issues.

Themes

Table 1: Thematic Distribution

S. No	Themes	Duration in Hours
1	Weight loss/gain	9
2	Poisoning	7
3	Cold & Heat	3
4	The Abnormal Baby	7
5	Rash & Joint Pains	13

Learning Objectives

By the end of Multisystem-II Module, Final year MBBS students will be able to:

1. Explain the etiology, risk factors, complications, and management of obesity
2. Explain the classification, etiology, risk factors, and management of PCM
3. Explain the risk factors, clinical features, investigations, and treatment of common water-soluble and fat-soluble vitamins
4. Explain the concepts of nutritional support both in the hospital and community settings
5. Explain the risk factors, clinical features, complications, and management of Anorexia nervosa and Bulimia nervosa
6. Discuss the management of common household poisoning including natural gas and snake bites
7. Explain the management of heat and cold-related disorders
8. Discuss the high-altitude sickness, decompression sickness, drowning, and electrocution.
9. Discuss chromosomal abnormalities, their clinical features, and the concepts of genetic counselling
10. Discuss the management of different autoimmune disorders and vasculitides in children and adults and their complications.

Specific Learning Objectives

Table 2: Theme Wise Learning objectives

Theme-1: Weight loss/gain					
Subject	**Topic**	**Hours**	**S. No**	**Domain of learning**	**Learning objectives**
Medicine	Obesity	2	1	Cognitive	Classify the types of obesity.
			2	Cognitive	Discuss the etiology of obesity.
			3	Cognitive	Explain the methods of measuring obesity.
			4	Cognitive	Discuss the musculoskeletal, endocrine, cardiovascular, and psychological complications of obesity.
			5	Cognitive	Classify the drugs used in the management of obesity and their complications and adverse effects.
Surgery	Bariatric surgery	1	6	Cognitive	Discuss the forms of surgical management of obesity
	Vitamins deficiencies • Thiamine deficiency • Pyridoxine deficiency • B12 deficiency and pernicious anemia	1	7	Cognitive	Explain the etiology, clinical features, investigations, and treatment of Beri Beri.
			8	Cognitive	Explain the etiology, clinical features, investigations, and treatment of Pyridoxine deficiency.
			9	Cognitive	Explain the etiology, clinical features, investigations, and treatment of B12 deficiency / pernicious anemia.
	Vitamin A, D, E, K deficiency	1	10	Cognitive	Explain the etiology, clinical features, investigations, treatment, and prevention of Vitamin A deficiency

			11	Cognitive	Explain the etiology, clinical features, investigations, and treatment of vitamin D deficiency
			12	Cognitive	Explain the etiology, clinical features, investigations, and treatment of vitamin E deficiency
			13	Cognitive	Explain the etiology, clinical features, and management of vitamin K deficiency
Surgery	Nutritional support/Enteral and parenteral nutrition	2	14	Cognitive	Define malnutrition and explain the methods of nutritional support.
			15	Cognitive	Explain the indications, contraindications, and complications of oral, enteral, and parenteral nutritional support
			16	Cognitive	Discuss the modes of clinical and laboratory monitoring of nutritional support
			17	Cognitive	Describe the routes of access of parenteral nutrition
			18	Psychomotor	Perform insertion of Nasogastric tube
			19	Psychomotor	Observe the insertion and care of PEG tube
			20	Psychomotor	Keep an intake and output record of an admitted patient on parenteral nutrition
			21	Affective	Counsel a patient before NG tube and PEG tube insertion
Pediatrics	Protein calorie malnutrition	1	22	Cognitive	Discuss the causes of malnutrition in developing countries - Describe the different forms of protein-energy malnutrition - Describe the symptoms of severe protein-energy malnutrition in children - Outline the treatment needed to treat a malnourished child - Define the criteria that classifies protein-energy malnutrition

					Discuss the causes of malnutrition in developing countries - Describe the different forms of protein-energy malnutrition - Describe the symptoms of severe protein-energy malnutrition in children - Outline the treatment needed to treat a malnourished child - Define the criteria that classifies protein-energy malnutrition Explain the different causes, forms, classification, clinical features, and management of PMC
Psychiatry	Anorexia nervosa and Bulimia nervosa	1	23	Cognitive	Discuss the etiology, precipitating factors, clinical features, and management of Anorexia nervosa
			24	Cognitive	Discuss the etiology, precipitating factors, clinical features, and management of Bulimia nervosa.
Theme-2: Poisoning					
Subject	**Topic**	**Hours**	**S. No**	**Domain of learning**	**Learning objectives**
Medicine	Approach to a patient with poisoning	1	25	Cognitive	Explain the management approach to a patient with poisoning in emergency setup
	Management of a comatose patient with poisoning	1	26	Cognitive	Discuss the management approach to a patient who presents in a comatose state in emergency
	Diagnosis of a patient with poisoning	1	27	Cognitive	Diagnose a patient with poisoning
	Common antidotes and general		28	Cognitive	Discuss the antidotes for common poisons and their management

	management of poisoning				
	Selected poisoning • Acetaminophen • Amphetamines and cocaine • Benzodiazepine • Insecticides and anticholinergics • Carbon monoxide • Ethanol and Methanol • Snake bites	1	29	Cognitive	Discuss the management of a patient with paracetamol poisoning
		3	30	Cognitive	Discuss the management of a patient with Amphetamine, cocaine and Ice poisoning
			31	Cognitive	Discuss the management of a patient with benzodiazepine poisoning
			32	Cognitive	Discuss the management of a patient with insecticide and anticholinergic poisoning
			33	Cognitive	Discuss the management of a patient with ethanol and methanol poisoning
			34	Cognitive	Discuss the management of a patient with Carbon monoxide (Natural gas) poisoning
			35	Cognitive	Discuss the management of a patient with snake venom poisoning
			36	Psychomotor	Perform gastric lavage
			37	Affective	Counsel a patient/family with poisoning
Theme-3: Cold and heat					
Subject	**Topic**	**Hours**	**S. No**	**Domain of learning**	**Learning objectives**
Medicine	Heat-related disorders	1	38	Cognitive	Classify heat-related disorders
	Hyperthermia		39	Cognitive	Explain the etiology, pathogenesis, clinical features and management of Hyperthermia and heat stroke
			40	Cognitive	Differentiate between hyperthermia and hyperpyrexia
	Hypothermia	1	41	Cognitive	Explain the risk factors, complications, and management of hypothermia.
	Drowning		42	Cognitive	Explain the management of a patient with drowning

	Electrical injuries		43	Cognitive	Discuss the management of a patient with electrocution
	High altitude sickness	1	44	Cognitive	Discuss the clinical features, management, and prevention of high-altitude sickness.
	Decompression sickness		45	Cognitive	Discuss the management of a patient with decompression sickness.
Theme-4: The abnormal baby					
Subject	**Topic**	**Hours**	**S. No**	**Domain of learning**	**Learning objectives**
Pediatrics	Porphyria	1	46	Cognitive	Classify porphyria.
			47	Cognitive	Explain the etiology, pathogenesis, clinical features and treatment of different types of porphyria
	Down syndrome	1	48	Cognitive	Explain the risk factor, chromosomal aberrations, clinical features and complications of Down Syndrome
	Collagen disorders	1	49	Cognitive	Classify collagen disorders and their clinical features
	Glycogen storage diseases		50	Cognitive	Classify glycogen storage disease and their clinical features
	Mucopolysacharidosis	1	51	Cognitive	Describe the clinical features and complications of mucopolysaccharidosis
	Galactosemia and Phenylketonuria		52	Cognitive	Describe the clinical features, investigations and complications of Galactosemia and Phenylketonuria
Medicine	Chromosomal disorders	1	53	Cognitive	Classify chromosomal disorders and give examples
	Single gene defects		54	Cognitive	Classify single gene disorders and give examples
	Sex linked disorders		55	Cognitive	Classify sex linked disorders and give examples
	Polygenic inheritance		56	Cognitive	Classify polygenic inheritance disorders and give examples
	Marfan syndrome	1	57	Cognitive	Explain the clinical features and complications of Marfan syndrome

Gynaecology	Genetic counselling and perinatal diagnosis	1	58	Cognitive	Explain the modes and indications of perinatal diagnosis
			59	Cognitive	Discuss the concept of genetic counseling
			60	Affective	Observe premarital counseling of a family for thalassemia.
Theme-5: Rash and joint pains					
Subject	**Topic**	**Hours**	**S. No**	**Domain of learning**	**Learning objectives**
Medicine	Evaluation of an adult with suspected autoimmune disorder	1	61	Cognitive	Discuss the diagnostic approach to a patient who presents with suspected autoimmune disorder
			62	Cognitive	Explain the different serological and immunological investigations used in the diagnosis of autoimmune disorders
			63	Cognitive	Classify and explain the mechanism of action of different pharmacotherapies in the management of autoimmune disorders
	SLE	2	64	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of SLE
			65	Cognitive	Discuss the diagnostic criteria for the diagnosis of SLE
			66	Cognitive	Explain the differences between SLE and drug induced lupus
	Antiphospholipid syndrome	1	67	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of Antiphospholipid syndrome
	Scleroderma	1	68	Cognitive	Explain the clinical features, investigations, management, prognosis, and complications of Scleroderma/Systemic sclerosis

	Polymyositis and dermatomyositis	1	69	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of polymyositis and dermatomyositis
	Sjogren Syndrome		70	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of Sjogren Syndrome
	Giant cell arteritis and polymyalgia Rehumatica	1	71	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of Giant cell arteritis and polymyalgia Rehumatica
	Polyarteritis nodosa	1	72	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of Polyarteritis nodosa
	Wegener granulomatosis		73	Cognitive	Explain the clinical features, investigations, management, prognosis, and complications of Wegener granulomatosis
	Vascilitides	1	74	Cognitive	Classify vascilitides, their clinical features, diagnostic approach, and management
			75	Cognitive	Explain the clinical features, investigations, management, prognosis, and complications of Henoch-SchÕnlein purpura
			76	Cognitive	Explain the clinical features, investigations, management, prognosis, and complications of BehÇet syndrome
Pediatrics	Kawasaki disease	2	77	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of Kawasaki syndrome
			78	Cognitive	Explain the clinical features, investigations, management, prognosis and complications of SLE in children

Nephrology	Renal involvement in different autoimmune disorders	2	79	Cognitive	Classify different pathological entities involving the kidneys in SLE, Rheumatoid arthritis and other autoimmune disorders
			80	Cognitive	Explain the renal complications and their management in SLE and Rheumatoid arthritis.