

## MEDICAL NUTRITION THERAPY II Theory

4 credits

Objectives:

This course will enable the students to:

1. Understand the promotive and therapeutic role of diet and nutritional care  
With reference to Endocrine disorders, renal disorders, cardiovascular system, musculoskeletal system
2. Understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patient needs
3. Know the effect of the various diseases on nutritional status and nutritional and dietary requirements.
4. Able to recommend and provide appropriate nutritional care based on pathophysiology, prevention/ and treatment of the various diet-related disorders/ diseases

### Contents

Module No	Objectives	Topics and Details	Number of credits
1	<ol style="list-style-type: none"><li>1. To understand the etiology as well physiological and metabolic alterations in metabolic disorders</li><li>2. To understand the therapeutic role of diet in managing diseases and related complications</li><li>3. To apply the principles of dietary</li></ol>	<b>Nutrition for Endocrine Disorders</b> <b>Nutrition for Diabetes Mellitus and hypoglycemia</b> <b>A) Aetiology, classification, pathophysiology symptoms and diagnosis</b> <b>B) Management of DM</b> <ol style="list-style-type: none"><li>i) Home blood glucose monitoring</li><li>ii) Glycosylated hemoglobin</li><li>iii) Urine testing</li></ol> <b>C) Blood sugar lowering agents</b> <ol style="list-style-type: none"><li>i) Oral hypoglycemic agents</li><li>ii) Insulin</li></ol> <b>D) Exercise</b> <b>E) Nutritional management</b> <ol style="list-style-type: none"><li>i) Diet planning for Type1, Type2</li><li>ii) For Special conditions<ol style="list-style-type: none"><li>a) Pregnancy</li><li>b) Elderly</li><li>c) Surgery</li></ol></li></ol>	1

	<p>management to specific conditions</p>	<p>d) Illness e) Physical activities</p> <p><b>F) Acute complications – pathophysiology, diagnosis, types, treatment</b>  i) Hypoglycemia  ii) Ketoacidosis  iii) Somogyi effect  iv) Dawn phenomenon</p> <p><b>G) Long term complication - pathophysiology, diagnosis, types, and treatment</b>  i). Macrovascular  ii). Microvascular</p> <p><b>Nutrition in Diseases of Other Endocrine organs</b></p> <ul style="list-style-type: none"> <li>- Functions of the adrenal cortex, thyroid and parathyroid gland, their insufficiencies, clinical symptoms and metabolic implications.</li> <li>- Dietary treatment as supportive to other form of therapy</li> <li>- Hyper and Hyperthyroidism (goiter)</li> <li>- Hypocalcaemia</li> </ul> <p><i>Evaluation: Presentations on recent research papers and evidence-based guidelines for management</i></p>	
<p>2</p>	<ol style="list-style-type: none"> <li>1. To understand the various risk factors for pulmonary and cardiovascular diseases.</li> <li>2. To explain the pathogenesis of the disease and complications</li> <li>3. To explain the dietary management in relation to the</li> </ol>	<p><b>Nutrition in Cardiovascular Diseases and Pulmonary Disorders</b></p> <p>Nutrition in Cardiovascular diseases</p> <p>Review of Normal circulatory system (in brief), Blood pressure,i) Regulation, Short-term (sympathetic nervous system) and long-term (kidneys), ii) Hypertension – classification (secondary and essential) iii) Risk Factors for hypertension iv) Dietary management-DASH approach v) Use of various drugs (In brief)</p> <p><b>Hyperlipidemia and Hyperlipoproteinemia</b></p>	<p>2</p>

	<p>physiologic and meatabolic alterations of the diseases.</p>	<p>i) Classifications  ii) Dietary management  iii) Drug management – (in brief)  D. Atherosclerosis - Etiology and understanding the pathogenesis  i) Coronary Heart Disease  - Angina Pectoris and Myocardial Infarction  - Clinical manifestation and importance of cardiac enzymes to aid in the detection of CHD  - Dietary management  E. Congestive Heart Failure  - Pathogenesis - Pathogenesis of sodium and water retention  Risk factors  Clinical manifestation  Cardiac Cachexia  Treatment  - Nutritional Care  F. Cerebrovascular Disease and Peripheral Vascular Disease  - In brief etiology and dietary care  G. Rheumatic and Congenital Heart Disease  - Clinical manifestation, pathogenesis and nutritional care</p> <p><b>Nutritional Management in Pulmonary Disease</b>  a. Effects of Malnutrition on Respiration  b. Chronic Obstructive Pulmonary Disease  c. Pneumonia</p> <p><i>Evaluation: Identification of videos on normal cardiovascular and pulmonary functions</i>  <i>Identification of visual presentation on atherosclerosis and cardiac disease</i>  <i>Presentations and discussion of the above</i>  <i>Concept mapping</i></p>	
3	<p>1.To understand the pathophysiology of various renal disorders and musculoskeletal disorders</p>	<p><b>Nutrition in Renal Diseases and Disorders of the MusculoSkeletal System</b>  - Physiology and function of normal kidney  – A brief review  - Classification of kidney diseases  a. GlomeruloNephritis</p>	

	<p>2. To explain the interrelationship between the disease conditions and nutritional status</p> <p>3. To understand the therapeutic role of diet vis-à-vis the severity and medical management.</p>	<p>Etiology, characteristics Objectives, Principles of dietary treatment and management</p> <p>b. Nephrotic Syndrome Etiology, Objectives, Principles of dietary treatment and management</p> <p>c. Uremic Renal Failure</p> <p>i) History, General importance of protein nutrition in renal failure and uremia</p> <p>ii) Causes and Dietary management in Acute Renal Disease</p> <p>iii) Causes and Dietary management in Chronic Renal Disease</p> <p>iv) Dietary modification in chronic renal disease with complications</p> <p>v) Sodium and Potassium Exchange list</p> <p>d) Types of dialysis and their nutritional care –Haemodialysis, CAPD, Continuous Ambulatory peritoneal dialysis)</p> <p>e) Renal Transplant and its nutritional care</p> <p>f) Nephrolithiases- etiology, types of stones and nutritional care (acid &amp; alkaline ash diet)</p> <p>g) Chronic renal disease in Children (in brief)</p> <p><b>MNT for Rheumatic disorders (of the musculoskeletal system)</b></p> <p>Pathophysiology of inflammation in</p> <p>i)Rheumatic Diseases ii) Osteoarthritis iii) Rheumatoid Arthritis, Gout</p> <p>Pharmacologic therapy and Nutritional Care</p> <p><b><i>Evaluation:</i></b></p> <p><i>Concept mapping</i></p> <p><i>Discussion and presentations- recent researches on role of nutrition and management</i></p> <p><i>Discussion of evidence based guidelines</i></p>	
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