



Course III - SYLLABUS - Relevant to research topic

Subject Title: “ROLE OF WHEY PROTEIN SUPPLEMENTATION TO SARCOPENIC OBESE ADULTS WITH TYPE II DIABETES – AN EXPERIMENTAL STUDY”

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Subject : FOOD AND NUTRITION

Course code : 20PHDCWP03

SYLLABUS

UNIT – I SARCOPENIA

Introduction, Definition EWGSOP2 - operational definition, Classification, Prevalence and Epidemiology, Pathophysiological changes and Risk factors, Muscle changes with aging, Diagnostic and Evaluation criteria- Muscle mass, Muscle strength, Physical performance Treatment, Hormone therapy, Pharmacotherapy in sarcopenia, Assessment of sarcopenia, factors associated with loss of muscle mass, Biological mechanism, Oxidative stress -Age-Related Remodeling of Neuromuscular Junctions, Changes in Motor Unit Structure and Function, Excitation-Contraction Coupling Regulation in aging skeletal muscle, Alterations in Mitochondria and Their Impact in aging skeletal muscle, Age-Related Changes in the Molecular Regulation of Skeletal Muscle Mass, Role of β -Adrenergic Signalling in Skeletal Muscle Wasting.

UNIT – II SARCOPENIC OBESITY

.Aging and obesity, Pathogenesis and complications of Sarcopenic Obesity –Aging, Lack of Physical Activity, Imbalanced Nutrition, Low-Grade Inflammation, Insulin Resistance, Hormonal Changes, Complications of Sarcopenic Obesity. Clinical Evaluation of the sarcopenic obesity and sarcopenia - Evaluation of body composition, Evaluation of handgrip strength, Evaluation of quality of life, Obesity and Mortality, Clinical Consequences of Sarcopenic Obesity

UNIT – III SARCOPENIA AND DIABETES MELLITUS

Aging and Diabetes and sarcopenia, insulin and insulin resistance, Growth hormone and insulin-like growth factor 1, Diabetes and geriatric syndromes, (SYL BOOK Sarcopenia, Sarcopenic Obesity and Insulin Resistance - InTech (PDFDrive) sarcopenia and diabetes complications - microvascular

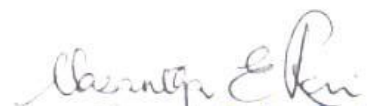
complications - macrovascular complications , Antidiabetic Agents in Sarcopenia - Complications and Reduced Functionality,

UNIT – IV WHEY PROTEIN

Composition, History, Chemical constituents, Production, Major forms of whey protein, Amino acids in Whey protein, Pharmacology of Whey protein, Chemistry of whey protein, Whey protein structure and denaturation, Interaction of other food components, Nutritional properties of whey protein, Nutritional application, Functional properties of whey protein, Applications – Body building, Weight management,

UNIT – V INTERVENTION ON DIET AND PHYSICAL ACTIVITY

Dietary Intervention - Diet and Supplementation, dietary interventions, Medication, Impact on the Quality of Life Nutritional Intervention - Physical Activity and Exercise - Resistance Training, Aerobic Exercise, High-Intensity Interval Training, Multimodal Exercise, Whole-Body Vibration Therapy, Impact of resistance training, aerobic training, and whole-body vibrational therapy in sarcopenia,


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