Growth, Development, Nutrition & Ageing Module – Year 1 Semester II (2012/13 Batch)

Web Copy

Final Document - revised on 15th May, 2015

Concept	Objectives	Time	Department	T / L Activity
	At the end of the module, the students should be able to:			
2012-1/SBM-6/01				
Introduction to growth and Development	1. define growth and development 2. emphasize the relevance of learning growth and development 3. fascinating complexities of natural growth and development 4. introduce the module and its objectives	1h	Paediatrics	Lecture
	5. describe the factors affecting growth and development. i.e. genetic, hormonal, nutritional, immunological and metabolic factors	1h	Biochemistry	Lecture
2012-1/SBM-6/02				
Cell Growth	1. recall the function of somatic cell division in cell replacement and growth	Recall	Biochemistry	
a) DNA replication	2. recall the basic events of DNA replication and DNA repair			
b) Cell Cycle	3. recall the phases of the cell cycle			
c) Protein synthesis	4. briefly state how the cell cycle is regulated and the consequences of deranged cell cycle 5. recall the basic events of protein synthesis (done in 2012 – 2/SBM-8/5)			
2012-1/SBM-6/03				
Prenatal growth	1. describe the factors affecting and regulating fetal growth 2. state the significance of healthy prenatal growth 3. describe common mechanisms resulting in congenital abnormalities and intra uterine growth retardation	1h	Obs.& Gynaecology	Lecture

Chairperson
Curriculum Coordinating Committee
Faculty of Medicine
University of Peradeniya

2012-1/SBM-6/04 **Prenatal Growth**				
Clinical, Anthropological, and Laboratory (Imaging, biochemical and Haematological) assessment of Congenital abnormalities and IUGR	1. importance of the biochemical identification of the fetal defects 2. Importance of early identification of fetal defects based on biochemical investigations	1h	Biochemistry	Lecture
	3. explain the rationale for providing special nutritional requirements during pregnancy and lactation	1h	Biochemistry	Lecture
2012-1/SBM-6/05				
New born baby	1. physical characteristics of a new born baby _ wt, length, OFC 2. deference from an adult – Proportions, physiology 3. changes at the time of birth – CVS, RS, Gut 4. normal Growth during neonatal period 5. normal development during neonatal period 6. needs of a new born baby for optimum growth and development	1h	Paediatrics	Lecture
2012-1/SBM-6/06				
Normal growth and growth charts	1. what is normal growth pattern – phases of growth 2. methods of evaluation of growth 3. growth charts and their uses 4. needs for normal growth	1h	Paediatrics	Lecture Demonstration
2012-1/SBM-6/07				
Abnormal growth patterns	1. define – FTT, wasting, obesity, short stature, tall stature 2. abnormal growth patterns in growth chart – Crossing centile, unstable growth pattern, 3. evaluation of height and prediction of adult height - Parental size , pubertal stage, bone age 4. introduce Gomus and waterlo classification	1h	Paediatrics	

Chairperson
Curriculum Coordinating Committee
Faculty of Medicine
University of Peradeniya

	5. describe the radiological assessment of skeletal development and estimation of age	1h	Radiology	Lecture
	6. identify laboratory and clinical features associated with malnutrition including kwashiorkor, marasmus, mineral and vitamin deficiencie	2h	Biochemistry	Lecture
	7 identification of clinical problems based on biochemically test 8. identification of deficient nutrients in food defects	6h	Biochemistry	PD (3hx2)
2012-1/SBM-6/08				
Growth chart	1. introduce the practical assessment of growth and development 2. draw a man tests 3. correlation – anatomical diagnosis, etiological diagnosis 4. introduce CHDR	5h	Paediatrics	CCR on a growth retarded child
2012-1/SBM-6/09				
Normal Development	1. what is normal development and normal pattern 2. brief introduction to development theories 3. introduce domains of development - Gross motor, Fine motor and vision, hearing and speech, social emotional and behavioral 4. intellectual and spiritual development 5. needs for normal development	1h	Paediatrics	Lecture
2012-1/SBM-6/10				
Abnormal development pattern	1. introduce development delay 2. deviations of development - bottom shufflers, commando crawlers 3. concept limit age 4. global development delay and specific development delay	1h	Paediatrics	Lecture
2012-1/SBM-6/11				
Normal Sexual Development	1. introduce normal maturation process and its normal range of deviation 2. sex determination at birth 3. sexual maturation physical and psychological changes 4. tanner staging 5. needs for normal sexual maturation	1h	Paediatrics	Lecture

Chairperson
Curriculum Coordinating Committee
Faculty of Medicine
University of Peradeniya

2012-1/SBM-6/12				
Abnormal Sexual Development	1. introduce precocious puberty and delayed puberty 2. introduce central & peripheral precocious puberty 3. introduce isosexual and hetero sexual precocious puberty	1h	Paediatrics	Lecture
2012-1/SBM-6/13				
Ageing	1. describe the factors affecting the process of ageing and the consequences of ageing on the individual family and community	2h	Medicine/ Biochemistry/ Com. Med.	Staff Seminar
	2. describe the special nutrition requirements of elderly	1h	Biochemistry	Lecture
	3. outline the Physical neurological, sexual and psychological changes that occur with aging in females	1h	Gyn. & Obs.	Lecture Demonstration
	4. describe the changes in the tissue composition in ageing (general & specific) 5. describe the general changes in the cell, apoptosis and nutritional problem in ageing.	1h	Biochemistry	Lecture
2012-1/SBM-6/14				
Why living beings have to eat	1. state the characteristics of a balanced diet.	3h	Biochemistry	Lectures: 1h + SGD - 2h
a. Balanced diet **b. Nutrients and how they are used in the body – fate of nutrients**	2. describe the functions of different nutrients absorbed from the alimentary tract (with special reference to glucose, lipids, amino acids, vitamins and minerals). 3. state the fate of nutrients absorbed.			
	4. dietary fibre	1h	Biochemistry	Lecture
		1h	Com. Medicine	Lecture
2012-1/SBM-6/15				
Do you eat enough	1. explain why energy is required. 2. list the sources of energy. 3. explain what is BMR.	5h	Biochemistry	Lectures: 3h SGD: 2h
a. Energy requirement	4. state the methods available to assess energy requirement. 5. explain how energy requirement could be calculated using BMR and type of physical activity. 6. describe the variations in the basic nutritional requirements in the various phases of life (fetal, infancy, child hood, adolescents, adulthood, pregnancy, lactation, and elderly) 7. describe the special requirements of nutrition for the young and growing child.			

Chairperson
Curriculum Coordinating Committee
Faculty of Medicine
University of Peradeniya

b. Protein requirement	1. explain why protein is essential in the diet. 2. list the indicators available to define quality of proteins: - BV, NPU, amino acid score). 3. compare the quality of proteins in commonly used foods in Sri Lanka. 4. explain zero, negative and positive nitrogen balance giving examples. 5. explain how protein requirement is derived from nitrogen balance studies. 6. state the recommended allowance of protein for adult male and female, pregnant and lactating women and pre school child.			
2012-1/SBM-6/16				
General				
Food intake during Pregnancy and lactation	1. describe external factors – nutritional, infection, social, cultural, emotional and other factors affecting growth and development in pregnancy and lactation	1h	Gyn. & Obs.	Lecture
2012-1/SBM-6/17				
Relevance of learning nutrition	1. healthy nutrition promotes healthy growth, development and resistance to diseases (communicable and non communicable) 2. growth and nutrition 3. development and nutrition – nutritional factors and feeding habits /practices for development, Breast feeding for development 4. communicable diseases and nutrition 5. non communicable diseases and nutrition - DM.HT, obesity, asthma, psychiatry 6. clinical methods of evaluation of nutrition and malnutrition	1h	Paediatrics	Lecture
	7. describes the methods used to minimize losses of nutrients during processing and increase the bio-availability of nutrients	2h	Biochemistry	Student Seminar

Chairperson
Curriculum Coordinating Committee
Faculty of Medicine
University of Peradeniya

2012-1/SBM-6/18				
Nutrition	1. describe the epidemiology of nutrition in Sri Lanka and world. 2. describe the role of health visitor in monitoring nutritional status of members in the community 3. describe the strategies available to improve the nutritional status of a community 4. describe how monitoring of the nutritional status of a community is carried out (children, pregnant lactating mothers and old age) 5. describe the special needs in physiological status in sports	4h	Com. Medicine	Lecture
2012-1/SBM-6/19				
A. Diet and nutrient intake	1. describe the nutritional value of breast milk, cow milk, and milk products	2h	Biochemistry	Lecture
		1h	Paediatrics	Lecture
	2. cereals	1h	Biochemistry	Lecture
	3. pulses	1h	Biochemistry	Lecture
	4. vegetable and fruits	1h	Biochemistry	Lecture
	5. oil seeds and nuts	1h	Biochemistry	Lecture
	6. meat and fish	1h	Biochemistry	Lecture
	7 minerals	2h	Biochemistry	Lecture
B. Dietarily important nutrients	<u>Fat soluble vitamins: A, D, E, and K</u> 8. biochemical functions of the vitamins 9. sources 10.requirments at different physiological functions	3h	Biochemistry	1h – Lecture 2h - SGD

D A Edmund

Chairperson
Curriculum Coordinating Committee
Faculty of Medicine
University of Peradeniya

	Water soluble vitamins: B-complex and C 11 biochemical functions of the vitamins 12 sources 13.requirments at different physiological functions	3h	Biochemistry	Lecture
2012-1/SBM-6/20				
Principles of causation of Malnutrition	1. causes of malnutrition – food availability, ingestion, digestion and assimilation 2. food availability – Global, national, domestic practices 3. ingestion – feeding practices – care givers and baby 4. method of assessing adequacy of food intake – history + 24 hour recall 5. digestion 6. assimilation	1h	Paediatrics	Lecture
2012-1/SBM-6/21				
Round up session	1. discuss the results of a MCQ paper done at home 2. summarize the module 3. feed back	1h	Lecture	Paediatrics

Chairperson
Curriculum Coordinating Committee
Faculty of Medicine
University of Peradeniya