

PEDIATRIC NUTRITION

2

Credits (Th) + 2 credits (Pr)

Objectives:

This course will enable the students to:

1. Know the nutritional requirements at different stages from infancy through adolescence and the recommendations/guidelines of expert groups.
2. Realise the importance of nutritional care and nourishment of children with various ailments.
3. Understand the specific needs of children and the effects of various diseases on nutritional status and nutritional requirements at these stages of the life cycle.
4. Be competent to recommend / provide appropriate nutritional care based on pathophysiology, prevention/ and treatment of the various diet-related disorders/diseases

Theory

Contents

Module No	Topics and Details	No of credits
1	Infant and Young Child Feeding Practices Breast feeding: Composition of Human Milk, Recommendations, exclusive breastfeeding, prelacteal feeds, duration of breastfeeding, advantages of breast feeding, contraindications, types of Infant formulas. Complementary feeding, issues and concerns Growth, Development and Nutritional Requirements of Infants/Children/Adolescents - Growth., development and body composition from infancy, preschool, childhood, puberty and adolescence Nutritional requirements at different stages of infancy, childhood and adolescence, factors influencing food intake, packed lunch Assessment of nutritional status and growth, growth charts and	1

	<p>milestones</p> <p>Preterm/ VLBW infants – Complications, Role of parenteral and enteral nutrition (trophic feeds – gut priming)</p> <p>Undernutrition in childhood – PEM, FTT, SAM, Fe deficiency, vit A deficiency – causes, consequences, management (in brief), Catch-up growth</p> <p>Overnutrition - causes, consequences, management</p>	
2	<p>Nutritional considerations for special conditions –</p> <p>Nutritional Management of Inborn Errors of Metabolism - PKU, Maple syrup urine disease, Homocystinemia, Tyrosinemia, Galactosemia, Glycogen storage disorder</p> <p>Diarrhea and constipation - causes, consequences, management</p> <p>Epilepsy and dietary approaches – ketogenic diet, atkins and recent advances</p> <p>Role of diet and nutritional challenges in developmental disabilities- autism spectrum disorders, cerebral palsy, Attention-deficit hyperactivity disorder</p> <p>Type 1 DM – Impact on growth and management</p> <p>Nephrotic syndrome and CKD in children - Impact on growth and management</p> <p>Food Allergies</p>	1

Pediatric Nutrition Practicals

Contents

Module No	Topics and Details	No of credits
1	<p>Pediatric Nutritional Assessment:- Anthropometric measurements, biochemical parameters, clinical and dietary assessment methods. Measuring, recording and plotting growth on growth charts. Use of growth reference/ standards (Field work)</p> <p>Normal nutrition for infants – Guidelines on breastfeeding and complementary feeding. Market survey of infant formulae and complementary foods. Planning complementary feeds as per the guidelines. Preparation of ARF.</p> <p>Nutrition in childhood and adolescence: Planning for preschool child, the school-aged child and adolescents</p>	1
2	<p>Nutritional concerns: -</p> <p>Guidelines for management for PEM, SAM, Fe deficiency and vitamin A deficiency</p> <p>Nutritional requirements for Inborn Errors of Metabolism - PKU, Maple syrup urine disease, Homocystinemia, Tyrosinemia, Galactosemia, Glycogen storage disorder</p> <p>Nutritional Management of diarrhea</p> <p>Ketogenic diet, Atkins diet</p> <p>Feeding challenges for developmental disabilities, feeding devices</p> <p>Nutritional requirements and management of - type 1 DM, nephrotic syndrome and CKD</p>	1

References:

1. Mahan, L.K. and Escott-Stump, S. (2000): Krause's Food Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.
2. Shils, M.E., Olson, J.A., Shike, M. and Ross, A.C. (1999): Modern Nutrition in Health and Disease, 9th Edition, Williams and Wilkins.
3. Escott-Stump, S. (1998): Nutrition and Diagnosis Related Care, 4th Edition, Williams and Wilkins.
4. Garrow, J.S., James, W.P.T. and Ralph, A. (2000): Human Nutrition and Dietetics, 10th Edition, Churchill Livingstone.

5. Williams, S.R. (1993): Nutrition and Diet Therapy, 7th Edition, Times Mirror/Mosby College Publishing.
6. Davis, J. and Sherer, K. (1994): Applied Nutrition and Diet Therapy for Nurses, 2nd Edition, W.B. Saunders Co.
7. Walker, W.A. and Watkins, J.B. (Ed) (1985): Nutrition in Pediatrics, Boston, Little, Brown & Co.
8. Guyton, A.C. and Hall, J.E. (1999): Textbook of Medical Physiology, 9th Edition, W.B. Saunders Co.
9. Ritchie, A.C. (1990): Boyd's Textbook of Pathology, 9th Edition, Lea and Febiger, Philadelphia.
10. Fauci, S.A. et al (1998): Harrison's Principles of Internal Medicine, 14th Edition, McGraw Hill.
11. World Cancer Research Fund (1997). Food, Nutrition and the Prevention of Cancer- A Global perspective, Washington E.D. WCRF.
12. Kumar, V. (1996): Aging – Indian Perspective and Global Scenario. Proceedings of International Symposium of Gerontology and Seventh Conference of the Association of Gerontology (India).
13. Bagchi, K. & Puri, S. (Ed) (1999): Diet and Aging – Exploring Some Facets. Soc. for Gerontological Research, New Delhi and Help Age India, New Delhi.
14. Chaudhary, A. (Ed) (2001): Active Aging in the New Millennium, Pub. Anugraha, Delhi.
15. Shills, M.E., Olson, J.A., Shike, M. and Ross, A.C. (Ed) (1999): 9th Edition, Williams and Wilkins.
16. Sharma, O.P. (Ed.) (1999): Geriatric Care in India – Geriatrics and Gerontology: A Textbook, M/s. ANB Publishers.
17. Aiken, L.R. (1978): The Psychology of Later Life, Philadelphia WB Saunders Company.
18. Bergmann, Klaus (1972): Aged: Their Understanding and Care, London Wolfe Pub.
19. Binstock, R.H. and E. Shanes (eds) (1986): Handbook of Aging and Social Sciences V.N. Reinhold Co, New York,.
20. Bose, A.B. and K.D. Gangrade (1988): Aging in India: Problems and Potentialities, Abhinav Pub. , New Delhi
21. Desai, K.G. (1985): Problems of the Retired People in Greater Bombay, TISS, Series No. 27.
24. Ghosh, B. (1988): Contemporary Social Problems in India, Bombay, Himalaya Pub.
25. Pinkston, P.H. and N.K. Linsk (1984): Care of the Elderly: A family approach, New York, Pergamon Press.
26. Watson, R. R. (ed) (2000) Handbook of Nutrition in the Aged. 3rd edition. CRC Press. Boca Raton
27. Nutrition Screening Initiative (1991 and 1992). Nutrition Screening Manual for Professionals Caring for Older Americans. Washington, D.C. Green Margolis, Mitchell, Burns and Associates
28. Chernoff, R. (ed) (1991). Geriatric Nutrition: The Health Professionals' Handbook, Gaithersburg, MD: Aspen
29. The Nutrition Screening Initiative (1994). Incorporating Nutrition Screening and Interventions into Medical Practice: A Monograph for Physicians.

30. Watson, R.R. (ed) (1985) CRC Handbook of Vitamins in the Aged ERC Press, Boca Raton, Florida
31. Bock, G.R.; and Whelen, J. (eds) The Childhood Environment and Adult Disease. Chichester, U.K. Wiley
32. Berg, R.L. and Casells, J.S. (1990) The Second Fifty Years: Promoting Health and Preventing Disability. Washington E.C. National Academy Press.

Journals:

1. American Journal of Clinical Nutrition,
2. Gerontology,
3. Journal of the American Geriatric Society,
4. Age Ageing,
5. Journal of Applied Gerontology,
6. Age,
7. Journal of Gerontology
8. Archives of Diseases in Childhood,
9. Acta Paediatrica Scandinavica,
10. Indian J of Pediatrics
11. UNU Food and Nutrition Bulletin
12. Journal of Pediatric Gastroenterology and Nutrition