

-Public Health Practice of Nutrition (4209) 2h(per week)

1. Introduction
2. Community Nutrition
3. Malnutrition:
 - A. Ecology
 - B. Health effects
 - C. Prevention and control
4. Malnutrition and infection:
 - A. Outline of immune system.
 - B. Nutritional modulation of immune responses Immune depression of protein energy malnutrition Role of individual nutrient (vit.A, vit.B6, iron, zinc& essential fatty acids).
 - C. Effects of infection on nutrition
5. Nutritional deficiency diseases:
 - A. Protein energy malnutrition.
 - B. Nutritional anaemias (iron, folic acid, B6, B12, Protein, vitE & copper).
 - C. Vit A deficiency
 - D. Vit D.
 - E. Vit C.
 - F. Vit B group (B1, B2, biotin, niacin, B6 & pantothenic acid).
 - G. Iodine
 - H. Fluorin
6. Anti - nutrient components of food
7. Assessment of community nutritional status:
 - A. Use of relevant data (morbidity & mortality indices).
 - B. Assess of ecological factors (sociocultural, economic, food production, conditioning influences & health services).
 - C. Dietary survey.
 - D. National food consumption & food balance sheet.
8. Nutrition education:
 - A. Value, aim, items, methods, target groups.
 - B. Dietary goals and guidelines.
 - C. C Factors be considered on providing nutrition counseling.
9. Nutritional surveillance & growth monitoring:

Concept, objectives & differences
10. Nutritional screening:

Definition, aim & importance, criteria, types of screening (mass screening & selective screening).
11. Nutritional Rehabilitation:

Rehabilitation centers, limitation & criticism.

12. Nutritional interventions: for
 - A. The family.
 - B. Community (direct & indirect)
 - C. At national & international levels.

13. Diet as a risk factor for chronic diseases:
 - Coronary heart disease.
 - Hypertension.
 - Diabetes mellitus.
 - Cancer.
 - Degenerative diseases (osteoporosis, multiple sclerosis).

- Applied Nutrition(4213) 2h(per week)

1. Nutrition and pregnancy:
 - Introduction - general concept.
 - Physiological changes during pregnancy with nutritional significance.
 - The need for increasing nutritional requirements.
 - Recommended dietary allowance for pregnancy.
 - The food guide pyramid approach for pregnancy and general dietary suggestions - meal frequency.
 - Weight gain during pregnancy.
 - Water intake - vitamin supplements - salts - Alcohol and coffin.
 - Assessment of nutritional status of pregnant women.
 - Dietary modifications in pregnancy.
 - Diet planning and implementation for pregnancy.
 - Nutrition related problems and complications during Pregnancy, Including:
 - Constipation.
 - Heart burn.
 - Pica.
 - Iron deficiency anemia.
 - Megaloblastic anemia.
 - Pregnancy induced HIV.
 - Gestational diabetes.
 - Nutrition for pregnant adolescent.
2. Nutrition and lactation:
 - Recommended intake for specific nutrients, energy during lactation.
 - Food group approach for lactation and general dietary suggestions.
 - Diet planning and implementation for lactating women.
3. Nutrition and physical fitness:
 - Water need and dehydration.
 - Recommended dilution for replacement fluids.
 - Energy requirements, energy sources, and effect of training on energy sources.
 - Carbohydrate loading.
 - Protein requirement for athletics.
 - Nutrient supplements for athletics.
 - Diet during training.
 - Precompetition meal.
 - Diet during an event.
 - Special ergogenic foods.
 - Foods to be avoided by athletics.
 - Consequences of excessive physical exercises on nut. Status.
 - Aerobic capacity:
 - Factors affecting the aerobic capacity.
 - Methods of building up aerobic capacity.
4. Nutrition in the later years (inaged):

- Nutrition and aging, nutrition implications of aging.
 - Factors affecting the intake of food.
 - Factors affecting nutrient use.
 - Factors affecting nutrient needs.
 - Major nutrition - related problems:
 - obesity - osteoporosis - neurological
 - dysfunction - Anemia - drug related
 - malnutrition - immunity - impaired glucose
 - Tolerances - cardio vascular diseases.
 - Nutrient needs:
 - Energy - protein - minerals - vitamins - other nutrients.
 - Dietary guide lines and food guide pyramid.
 - Planning and implementation of diet for aged person.
 - Assessment of nut. State of the aged individual.
 - Risk factors for poor nutritional state among elderly.
 - Nutritional consideration for institutionalized elderly.
5. Diet and drugs:
- Risk factors for developing drug - induced nutrient deficiencies.
 - Effect of drugs on nutritional status:
 - Mechanism of food intake alteration.
 - Mechanism of alteration in nutrient absorption.
 - Mechanism of alteration in nutrient metabolism.
 - Mechanism of alteration of nutrient excretion.
 - Effect of food and nutrient on drugs:
 - Effect of food on drug absorption.
 - Effect of food on drug metabolism.
 - Effect of food on drug excretion.
 - Test diets:
 - Fecal fat determination.
 - Glucose tolerance test.

**- Food Analysis (4214) 2h(per week)
(Principles and instrumentation):**

- 1- Introduction
 - International organisation which issue standard analytical methods for food commodities
- 2- Sampling and sample preparation
 - Guidance notes during sampling
 - Inspection and clearance procedures
 - Preservation of the samples
 - Expression of results
- 3- Types of analysis
 - Sensory
 - Chemical
 - Physical
 - Microbiological
- 4- Types of chemical analysis
 - Common techniques
 - Instrumental methods
 - Other techniques
- 5- Factors effecting the choice of analytical methods
- 6- Interferences
- 7- Data acquisition and treatment
- 8- Determination of moisture content and total solids
 - Drying methods
 - Distillation methods
 - Physical methods
 - Chemical methods
- 9- Determination of total organic nitrogen
 - Dumas method
 - Kjeldahl method
 - TerMeulen's method
- 10- Determination of protein in food
 - Indirect method (Kjeldahl procedure)
 - Direct method
 - Formal titration
 - Colorimetric methods
 - Direct distillation
 - Infra – red methods
- 11- Determination of fat in food

- Extraction methods
 - Continuous extraction
 - Intermittent extraction (soxhlet)
 - Digestion
- 12- Determination of Ash in food
- Total ash
 - Ash from water – soluble portion
 - Soluble and insoluble ash
 - Ash insoluble in acid
- 13- Determination of carbohydrates in food
- 14- Determination of crude fiber in food
- 15- Chromatography
- Ion exchange chromatography
 - Column chromatography
 - Thin layer chromatography
 - Gas chromatography
- 16- Colorimetry and spectrophotometry
- 17- U.V. spectrophotometry
- 18- I.R. spectrophotometry
- 19- Spectrofluorimetry
- 20- Atomic emission spectroscopy
- 21- Atomic Absorption and flame emission spectroscopy
- 22- High performance liquid chromatography (HPLC)
1. Atomic emission spectroscopy
 2. Atomic absorption and flame emission spectroscopy
 3. H.P.L.C.

- Clinical Nutrition(4210) 3h(per week)

1. Disease of the heart & circulation, the role of dietary factors in aetiology & management.
 - Hypertension: general description, nutritional inadequacy indications & rationale, foods of dietary management or nutrition therapy.
 - Hyperlipidemia: general description definition of term, nutritional inadequacy indications & rationale
Assessment: hypercholesteriemia
hypertriglyceridemia
hyper triglycerdemia & hypercholester
hyper triglyceridemia (chylomicrons)
Dietary recommendations, nutrition herapy
 - Coronary heart disease: C.V. risk factors & their nutritional determinants.
 - Congestive heart failure: cause of malnutrition in CHF
 - Impaired cellular oxygen supply
 - Increased nutritional losses
 - Increased nutritional requirements
 - Decreased nut. intake
 - Nutritional therapy for CHF
 - Dietary advice for high risk individuals other nutritional issues relevant to diet & CHD
 - Myocardial infarction - general description, nutritional inadequacy indication and rationale, general dietary recommendation
2. Endocrine disease & disorders:
 - Diabetes mellitus - IDDM, NIDDM
general description, nutritional inadequacy, indication & rational, strategies for achieving
nutritional goals, sweeteners, nutrition therapy for people with diabetes, modification of the
standard diet for diabetes, the diabetes control & complication trial, after strategies for
controlling glucose.
 - Hypoglycemia - general description, nutritional inadequacy, indication & rationale, goals of dietary management
 - Gestational diabetes
 - Obesity - objective of nutritional assessment in medical practice, general description, nutritional inadequacy inication & rationale, goals of dietary management recommendation.
 - Osteoporosis - general description, nutritional inadequacy, indication & rationale, risk factors, goal of dietary management dietary recommendation
 - Addison's dis.
 - Cushing synd. Definition, general description, dietary & nutritional recommended.

3. Renal diseases & disorders: Acute renal failure
 - Chronic renal failure
 - Hemodialysis
 - Nephrotic syndrome

General description, nutritional inadequacy, indication & rationale, common nutritional problems, goals of dietary management, dietary recommendation

4. Gastrointestinal diseases & disorders:
 - Abdominal gas & flatulence
 - Diarrhoea
 - Esophageal reflux - adult & pediatric
 - Fat malabsorption
 - Fiber & residue modification high fiber diet, restricted F.D, low residue diet
 - Irritable bowel syndrome
 - Peptic ulcer disease - general description, nutritional inadequacy, indication & rationale, goals of dietary management, dietary recommendation.
 - Chronic liver disease.

5. Oncologic disease:
 - Cancer - general description, indication & rationale, nutritional effects of cancer, therapies (surgical, chemotherapy radiation) goals of dietary management, dietary recommendation nutrition & its role in cancer protection.

6. Nutritional management & transplantation:
 - Nutrition in transplantation
 - Low bacteria diet
 - Kidney transplantation
 - Bone marrow & thoracic organ transplantation

7. Diet relation to nervous system:

Effects of deprivation & selective micronutrient deficiency on brain development & function in childhood micronutrient and brain function.

- Food Stuff(4211) 2h(per week)

1. Food and food composition tables:
Introduction, applications, community health, clinical research, limitation.
2. Cereals: Introduction, Nutritive value,
 - Wheat: Extraction rate, Nutritive value of flour, phytic acid, Bread, Types of bread, Biscuits, Cakes and confectionery, Break fast cereals, Macaroni and spaghetti.
 - Rice: Production, Nutritive value, Parboiling, Losses of B group vitamins.
 - Maize: Production, Nutritive value, viacin bioavailability.
3. Starchy roots: Potato and cassava, production, Their nutritive value.
4. Sugars and syrups.
5. Legumes, Vegetables, Fruits: production, Their nutritive value, and their role in human nutrition.
6. Meat: production, nutritive value, Digestibility of meat, Tenderness of meal, Offals, Cow mad disease.
7. Fish: Nutritive value, long - chain W3 and W6 polyunsaturated fatty acids.
8. Eggs: Production, nutritive value.
9. Nuts: Production, nutritive value.
10. Textured vegetable protein and Novel Protein: production, nutritive value
11. Milk and milk products: production, nutritive value
12. Infant feeding and formula milk: Infant feeding and unmodified cow's milk, the modification of cow's milk to produce formula milk. Iron deficiency among infants and the strategies for preventing of iron deficiency anaemia, comparison between breast and formula feeding.
13. Fats and oils: production, nutritive value, comparison between animal and plant fats and oils.
14. Herbs and spices: production, nutritive value, types of herbs and spices.
15. Beverages: natural water and it's quality, mineral water, soft drinks, fruit juices, tea, coffee and coca.
16. Supplementation: why many people prescribing supplement for themselves, the circumstances which may indicate the use of supplement under the supervision of physicians and registered dietitians. Types of products, Enrichment, Iodization, fortification.
17. Fast food: nutritive value, How to improve the quality of fast food.

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18. Food additives: coloring agents, flavoring agents, sweetening agents, Emulsifiers and stabilizer, Antioxidants, other additives.
19. Losses of food and nutrients: wastage's, loosing during processing.
20. Natural toxins in food: protection, Enzyme inhibitors, Antivitamins, Mineral binding agents, Agricultural residues.

- Food Hygiene(4212) 2h(per week)

1. Infective agents in food
 - Microorganisms
 - Helminth
 - Other infective agents: rats and mice, bird, Cockroaches, bird
 - Safety precautions
2. Factors contributing to out break of food poisoning.
3. Indicator organisms for food sanitation
 - Introduction
 - Aerobic mesophilic bacteria
 - Anaerobic mesophilic bacteria
 - Enteric indicator organisms (E. Coli and Coliform)
 - Total enterobacteriaceae as indicator
 - Other indicator organisms: Streptococcus salivarius, Staphylococci, Clostridia.
4. The principles of identification for main food poisoning bacteria:
 - Salmonellae
 - Staphylococci
 - Clostridium botulinum
5. Personal hygiene of the food handlers:
 - Hands, Nasal and throat carriage, Regulation, Occupational health services, medical examination.
6. Food hygiene in food manufacture:
Introduction, Building and facilities, water and sewerage, plant lay out and design, cleaning System
7. The importance of processing control in hygienic food manufacture:
Personnel, Raw materials, Pack integrity, process monitoring, final product
8. The Hazard analysis critical control point system (HACCP) in food manufacture:
Introduction and the application of the system, the stages of the system, types of monitoring, the advantages of the system, practical examples of the system
9. Food hygiene in the retail trade.
10. Cleaning and disinfection:
 - Theory of cleaning, methods of cleaning (dilution in water, dry cleaning, detergents, caustic soda).
 - Disinfection: definition, methods of disinfection (cleaning, heat treatment chemicals)
 - Chemical disinfection: factors to consider when choosing an appropriate disinfectant, The disinfectants compound: chlorine- based disinfectants quaternary-ammonium compounds, Iodin - based disinfectants.

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Syllabus of Nutrition Department - fourth year

11. The effect of heat on micro - organisms:
 - The determination of decimal reduction times
 - D values
 - Z values
12. Sampling plans.
13. Epidemiology:
Definition, describing the outbreak of food poisoning, statistics, food history, laboratory studies, results and general information, source of data.
14. Water hygiene.
15. Legislation.
16. Education.
17. Food hygiene in tropics country.

-Food Preservation(4216) 2h(per week)

1. Introduction:
 - Factors influencing the storage stability
 - Needs and benefits of industrial food preservation.
 - Definition of terms: perishable foods, semiperishable foods, shelf shelf life, and methods of preservation.

2. Fermentation:
 - The preserving power of acetic and lactic acids
 - Principles of fermentation, Lactic acid fermentation, Acetic acid fermentation
 - Application of fermentation
 - Cheeses production
 - Curing of meats
 - Pickling of fruit and vegetables

3. Thermal processing:
 - Factors effecting thermal processing
 - Kinds of heat treatments
 - Principles of canning
 - Heat resistance of enzymes in food
 - Influence of canning on the quality of food

4. Principles of food freezing:
 - Definition, quick freezing
 - Methods of quick freezing
 - Influence of freezing on microorganisms
 - Influence of freezing on nutritive value of foods
 - Influence of freezing on parasites

5. New methods of food preservation:
 - Ionizing radiation
 - Ultra - high temperature sterilization
 - Ohmic heating
 - High pressure treatment

6. Effect of food preservation on nutrients:
 - Nutrient losses in food processing
 - Nutritional gain in food processing
 - Family composition unit, definition.

7. Nutritive contribution of food groups
 - A, B, C & D
 - Milk & product Fruit & vegetables Meat eggs Bread & cereals

- Computer (4121) 2h(per week)

- 1.0 نبذة عن الحاسوب (Introduction to comuter)
- 2.0 أجيال الحاسوب (Computer Generations)
- 3.0 وحدات الادخال والايخراج (Input / Output units)
- 4.0 مقدمة عن لغات البرمجة ونظم التشغيل ونظام النوافذ (Programming Languages, Operating Systems and MS- WINDOWS)
- 5.0 أسلوب الكتابة الجيد (Writing Skills)
- 6.0 برنامج وورد العربي (MS – WORD)
- 7.0 مهارات العروض المرئية الناجحة (Presentation Skills)
- 8.0 برنامج بوربوينت (MS – POWER POINT)
- 9.0 مقدمة عن قواعد البيانات (Data Bases)
- 10.0 مقدمة للغة (MS – ACCESS)
- 11.0 مقدمة للجداول الالكترونية (MS – EXCEL)
- 12.0 مقدمة عن شبكات الحاسوب (Introduction to computer Networks)
- 13.0 مقدمة عن الانترنت (Introduction to Internet)
- 14.0 برمجة الانترنت (Internet Programming)