### Enteral and Parenteral Nutrition

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**Lecturer(s)**

- Antonio Pérez de la Cruz
- Mª del Carmen Bedmar Abril.
- Mª Dolores Contreras Claramonte

**Postal address, telephone n°, e-mail address**

- Dept: Nutrition and Food Science, Pharmacy and Pharmaceutical Technology (Area Pharmacy and Pharmaceutical Technology)
- Building B, Floor 0 and 3rd floor, School of Pharmacy, Ships n° Y and X.
- Email: ajperezcruz@ugr.es, mbedmar@ugr.es, mdcontre@ugr.es

**Degree within which the subject is taught**

Degree in Human Nutrition and Dietetics

**Prerequisites and/or recommendations (if necessary)**

- Biochemistry
- Physiology
- Physiopathology
- Nutrition I
- Diet Therapy and Clinical Nutrition I

**Brief account of the subject programme (according to the degree???)**

- Factors causing malnutrition in hospitalized patients.
- Composition of the preparations used in enteral nutrition (EN). Features preparations. Types of preparations in NE. Criteria for the choice.
- Composition of the preparations used in parenteral nutrition (PN). Types of preparations. Monitoring the PN. PN preparation.
- New employees nutrients and substrate in artificial nutrition.
- Preparations used for specific nutritional purposes.
### GENERAL AND PARTICULAR ABILITIES

**General abilities:**

- Recognize the essential elements Dietitian profession, including ethical, legal responsibilities and the exercise of the profession, applying the principle of social justice to professional practice and develop it with respect for people, their habits, beliefs and cultures
- Develop the profession with respect to other health professionals, acquiring teamwork skills
- Recognize the need to maintain and update professional skills, with special emphasis on learning, independently and continuously, of new knowledge, products and techniques in food and nutrition, as well as the motivation for quality
- Know the limits of the profession and skills, identifying when necessary interdisciplinary treatment or referral to another professional
- Making effective communication, both orally and in writing with people, health professionals and industry and the media, knowing how to use information technologies and communication, particularly those related to nutrition and habits life
- Understand, critically evaluate and how to use and apply sources of information related to nutrition, food, lifestyle and health aspects
- Having the ability to produce reports and registration requirements concerning professional intervention
- Identify and classify foods and food products. Can analyze and determine its composition, properties, nutritional value, bioavailability of nutrients, and organoleptic modifications suffered as a result of technological and culinary processes
- Know the nutrients, their function in the body, its bioavailability, requirements and recommendations, and the basis of the energy balance and nutritional
- Integrate and evaluate the relationship between food and nutrition in health and in pathological situations
- Develop and implement protocols for assessment of nutritional status, identifying nutritional risk factors
- Interpret nutritional diagnosis, assess the nutritional aspects of medical history and dietary action plan
- Understand the structure of food services and food and nutrition units hospital, identifying and developing Dietitian functions within the multidisciplinary team
- Participate in the organization, management and implementation of the different types of food and nutritional support inpatient and outpatient dietary and nutritional
- Understand and participate in the design, implementation and validation of nutritional epidemiological studies and participate in the planning, analysis and evaluation of intervention programs in food and nutrition in different areas
- Assist in the development, marketing, labeling, marketing communications and food products according to the social, scientific knowledge and current legislation
- Interpret reports and administrative records relating to a foodstuff and ingredients
- Acquire basic training for the research activity, being able to formulate hypotheses, collect and interpret information to solve problems using the scientific method and understand the importance and limitations of scientific thinking on health and nutrition

**Specific abilities**
• Acquire teamwork skills as a unit in which the structure of uni-or multidisciplinary and interdisciplinary professionals and other staff related to the diagnostic evaluation and treatment of diet and nutrition
• Knowing the chemical composition, physical and chemical properties, nutritional value, their bioavailability, their organoleptic and modifications suffered as a result of technological and culinary processes
• Interpret and manage databases and tables of food composition
• Participate in enterprise social marketing teams, advertising and health claims
• Apply the Science of Food and Nutrition dietetic practice
• Assess and nutritional requirements in health and disease status at any stage of the life cycle
• Know, early detection and assess deviations in excess or defect, quantitative and qualitative nutritional balance
• Plan, perform and interpret the assessment of nutritional status of individuals and / or groups, both healthy (in all physiological situations) as patients
• Understand the pathophysiological aspects of nutrition-related diseases
• Develop and interpret a dietary history in healthy subjects and patients. Interpret medical history. Understand and use the terminology used in health sciences
• Interpret and integrate clinical, biochemical and pharmacological patient's nutritional assessment and dietary and nutritional treatment
• Apply the basics of clinical nutrition diet therapy
• Plan, implement and evaluate therapeutic diets for individuals and / or groups
• Understand the organization and the various stages hospital foodservice
• Participate in multidisciplinary teams of Hospital Nutrition Unit
• Know the different techniques and products for nutritional support basic and advanced. Develop and implement transition plans dietary and nutritional
• Plan and carry out education programs and nutritional diet in healthy subjects and patients
• Handle basic ICT tools used in the field of Food, Nutrition and Dietetics
• Understand the legal and ethical boundaries of dietetic practice
• Prescribe specific treatment for the competence of the dietitian
• Be able to substantiate the scientific principles underlying intervention dietitian, subordinating their performance on scientific evidence

OBJECTIVES (EXPRESSED IN TERMS OF EXPECTED RESULTS OF THE TEACHING PROGRAMME)

• Study the energy needs of the patient in outpatient means or in the hospital.
• Know the methods to assess nutritional status and how to interpret the results of these explorations.
• Analyze the various existing artificial nutrition techniques, indications, contraindications and complications.
• Investigate the substrates used in the preparation of the formulas used as nutritional support.
• Identify strategies to follow in the nutrition of patients with various disease processes.

DETAILED SUBJECT SYLLABUS

THEORETICAL:
• Item 1. INTRODUCTION. History of enteral and parenteral nutrition: Past, present and future.
• Item 4. ORGANIC RESPONSE AGAINST AGGRESSION. Metabolism and phases of the response to aggression. Mediators of the response to aggression. Using substrates in aggression.
• Item 5. ENERGY REQUIREMENTS IN PATIENTS REQUIRING NUTRITIONAL SUPPORT. Introduction. Energy needs and factors that modify them. Calculation of the energy needs in terms of pathology. Using the calorimetric technique in determining the energy requirements: direct calorimetry; indirect calorimetry. Using indirect calorimetry for calculating energy requirements in critically ill patients.
• Item 6. GENERAL REMARKS ON THE ARTIFICIAL NUTRITION. Introduction. When initiating nutritional support. Candidates nutritional support. Time to be maintained nutritional support
• Item 16 enteral formulas EMPLOYMENT AS SOMO DIET NUTRITI ONAL SUPPLEMENT FOR CONVENTIONAL. Introduction. Criteria for proper prescription. Criteria for selection of the formula. Features supplements used in various pathologies

PRACTICAL

Seminars / Workshops / Laboratory Practices
Practice 1. Calculation of the energy needs of a sick individual. Analysis of the influence that the type of disease and degree of aggression has on energy expenditure in a patient. Interpreting data obtained by indirect calorimetry. Studies of clinical cases.
Practice 2. Assessment of nutritional status of patients clinical case study. Nutritional screening techniques for early detection of patients at nutritional risk.
Practice 3. Search and analysis of special formulas for pediatric use.
Practice 5. Management systems in enteral nutrition management: Using the gravity system and nutripumps.
Practice 8. Clinical sessions: Application of artificial nutrition specific pathological situations.

RECOMMENDED INTERNET LINKS

- Journal of parenteral and enteral nutrition
- Clinical Nutrition
- Nutrition
- Nutrition and clinical practice
- Nutrición Hospitalaria
- Journal of Nutrition
- Nutrition reviews
- Nutrition & metabolism